

References

- Abbott KC, Glanton CW, Trespalacios FC, et al (2004):** Body mass index, dialysis modality, and survival: Analysis of the United States Renal Data System Dialysis Morbidity and Mortality Wave II study. *Kidney Int* 65:597-605
- Afzali B, Al-Khoury S, Shah N, Mikhail A, Covic A, Goldsmith D (2006):** Anemia after renal transplantation. *AmJ Kidney Dis*. 48:519–36.
- Agarwal AK, Silver MR, Reed TE, et al (2006):** An open-label study of darbepoetin alfa administered once monthly for the maintenance of haemoglobin concentrations in patients with chronic kidney disease not receiving dialysis. *J Intern Med*. 260:577-585.
- Akagi S, Ichikawa H, Okada T, et al (2004):** The critical role of SRC homology domain 2-containing tyrosine phosphatase-1 in recombinant human erythropoietin hyporesponsive anemia in chronic hemodialysis patients. *J Am Soc Nephrol* 15: 3215–24.
- Albitar S., Genin R., Fen-Chong M., Serveaux M. O., Schohn D., Chuet C.(1997):** High-dose alfacalcidol improves anaemia in patients on hemodialysis. *Nephrol. Dial. Transplant*. 12, 514–518.
- Alexanian R, Vaughn WK, Ruchelman MW (1967):** Erythropoietin excretion in man following androgens. *J Lab Clin Med*. 70: 777–85.
- Ali M, Fayemi AO, Frascino J, et al (1982):** Failure of serum ferritin levels to predict bone marrow iron content after intravenous iron dextran therapy. *Lancet*. 1:652-655.
- Aljama P, Ward MK, Pierides AM, et al (1978):** Serum ferritin concentration: A reliable guide to iron overload in uremic and hemodialyzed patients. *Clin Nephrol*. 10:101-104.

Andrews NC (1999): Disorders of iron metabolism. *N Engl J Med* 1999; 341(26):1986-95.

Astor BC, Muntner P, Levin A, Eustace JA, Coresh J (2002): Association of kidney function with anemia: the Third National Health and Nutrition Examination Survey (1988-1994). *Arch Intern Med*. 162:1401-1408.

Auerbach JM, Witt D, Toler W, et al (1988): Clinical use of the total dose intravenous infusion of iron dextran. *Lab Clin Med*. 111:566-570.

Auerbach M, Winchester J, Wahab A. et al (1997): A randomized trial of three iron dextran infusion methods for anemia in EPO treated dialysis patients. *Am J Kidney Dis*. 31:81-86.

Axelrad AA, McLeod DL, et al (1974): Properties of cells that produce erythrocytic colonies in vitro. IN: Robinson WA. ed. *Hematopoiesis in culture*. Washington, DC: National Institutes of Health; 1974:226.

Aydin Z, Duijs J, Bajema IM, Van Zonneveld AJ, Rabelink TJ (2007): Erythropoietin, progenitors, and repair. *Kidney International* 72, S1–S3.

Bahlmann FH, Kielstein JT, Haller H, Fliser D (2007): Erythropoietin and progression of CKD. *Kidney Int*. 72: S1–S3

Bainton DF, Finch CA (1964): The diagnosis of iron deficiency anemia. *Am J Med*; 37:162-70.

Barany P (2001): Inflammation, serum C-reactive protein and erythropoietin resistance. *Nephrol. Dial. Transplant*. 16, 224–227.

Barany P, Divino Filho JC, Bergstrom J (1997): High C-reactive protein is a strong predictor of resistance to erythropoietin in hemodialysis patients. *Am J Kidney Dis*. 29:565-8.

Batmunkh C, Krajewski J, Jelkmann W, Hellwig-Burgel T (2006): Erythropoietin production: molecular mechanisms of the antagonistic actions of cyclic adenosine mono phosphate and interleukin-1. *FEBS Lett* 580:3153–60.

Beguin Y, Loo M, R'Zik S, Sautois B, Lejeune F, Rorive G, et al (1993): Early prediction of response to recombinant human erythropoietin in patients with the anemia of renal failure by serum transferrin receptor and fibrinogen. *Blood* 82:2010-2016.

Bennett CL, Luminari S, Nissenson A et al (2004): Pure red cell aplasia and anti erythropoietin antibodies in patients treated with recombinant epoetin: a follow-up report from the Research on Adverse Drug Events and Reports (RADAR) project. *N Engl J Med*; 351: 1403–1408.

Bernad A, Kopf M, Kulbacki R, Weich N, Koehler G, Gutierrez-Ramos JC (1994): Interleukin-6 is required in vivo for the regulation of stem cells and committed progenitors of the hematopoietic system. *Immunity* 1:725–31.

Bertoni E, Rosati A, Zanazzi M, et al (1997): Unusual incidence of aplastic anaemia due to B-19 parvovirus infection in renal transplant recipients. *Transplant Proc* 29:818–9.

Besarab A, Bolton WK, Browne JK, et al (1998): The effects of normal as compared with low hematocrit values in patients with cardiac disease who are receiving hemodialysis and epoetin. *N Engl J Med* 339(9):584-590.

Besarab A, Kaiser JW, Frinak S (1999): A study of parenteral iron regimens in hemodialysis patients. *Am J Kidney Dis*. 34:21-28.

Beusterien KM, Nissenson AR, Port FK, Kelly M, Steinwald B, Ware JE Jr (1996) :The effects of recombinant human erythropoietin on functional health and well-being in chronic dialysis patients. *J Am Soc Nephrol* 7:763-773,

Beutler E, Fairbanks VF, Fahey JL (1963): The metabolism of iron. In: *Clinical Disorders of Iron Metabolism*. New York: Grune & Stratton Inc. 19:64.

Bhandari S, Norfolk D, Brownjohn A, Turney J (1997): Evaluation of RBC ferritin and reticulocyte measurements in monitoring response to intravenous iron therapy. *Am J Kidney Dis* .30:814-821.

Binley K, Askham Z, Iqbal S, et al (2002): Long-term reversal of chronic anemia using a hypoxia-regulated erythropoietin gene therapy. *Blood* 100: 2406–2413.

Bosch JP, Saccaggi A, Lauer A, Ronco C, Belledonne M, Glabman S (1983): Renal functional reserve in humans. Effect of protein intake on glomerular filtration rate. *Am j Med*. 75(6):943-50.

Boven K, Stryker S, Knight J, et al (2005): The increased incidence of pure red cell aplasia with an Eprex formulation in uncoated rubber stopper syringes. *Kidney Int*. 67: 2346–53.

Bovy C, Tsobo C, Crapanzano L, et al (1999): Factors determining the percentage of hypochromic red blood cells in hemodialysis patients. *Kidney Int*.56: 113-119.

Brass EP (1995): Pharmacokinetic considerations for the therapeutic use of carnitine in hemodialysis patients. *Clin Ther* 17:176-185

Brochner-Mortensen J, Rodbro P (1976): Selection of routine method for determination of glomerular filtration rate in adult patients. *Scand j Clin Lab Invest* 36(1):35-43.

Bugelski P, Nesspor BT, Spinka-Doms T, Markopoulos D, Eirikis E, Fisher J, Volk A, Shamberger K, James I, Fisher P, Pool C, Jang H, Miller B, Huang C, Heavner G, Knight D, Ghrayeb J, Scallan B (2005): Pharmacokinetics and pharmacodynamics of CTNO528, a novel erythropoiesis receptor agonist in normal and anemic rats. *Blood* 106:146b

Bush WH, Jr., Choyke PL, Bluth EI, Casalino DD, Francis IR, Jafri SZH, et al (2005): ACR Appropriateness Criteria: Renal Failure. Reston, VA: American College of Radiology; 2005. [cited 3 jan 2008]. Available from url: <http://acsearch.acr.org/variantList.aspx?topicid=30683>

Canaud B, Braun J, Locatelli F, et al (2006): Intravenous (IV) C.E.R.A. (continuous erythropoietin receptor activator) administered once every 2 weeks maintains stable haemoglobin (Hb) levels in patients with chronic kidney disease (CKD) on dialysis. *Nephrol Dial Transplant* 21:iv157A, 2006 (suppl 4; abstr SP425)

Caro J, Brown S, Miller O, Murray T, Erslev AJ (1979): Erythropoietin levels in uremic nephric and anephric patients. *J Lab Clin Med* 93: 449–58.

Casadevall N (2002): Antibodies against rHuEPO: native and recombinant. *Nephrol Dial Transplant* 17(supplement 5): 42–47.

Casadevall N (2003): Pure red cell aplasia and anti-erythropoietin antibodies in patients treated with epoetin. *Nephrol Dial Transplant* 18 (Suppl 8): VIII37–VIII41.

Casadevall N, Dupuy E, Molho-Sabatier P et al (1996): Autoantibodies against erythropoietin in a patient with pure red-cell aplasia. *N Engl J Med* 334: 630–633.

Casadevall N, Nataf J, Viron B et al (2002): Pure red-cell aplasia and antierythropoietin antibodies in patients treated with recombinant erythropoietin. *N Engl J Med* 346: 469–475.

Cavill I (2002): Iron and erythropoietin in renal disease. *Nephrol Dial Transplant* 17(Suppl 5): 19–23.

Charytan C, Levin N, Al-Saloum M, et al (2001): Efficacy and safety of iron sucrose for iron deficiency in patients with dialysis associated anemia: North American Clinical Trial. *Am J Kidney Dis.*37:300-307.

Cockcroft DW, Gault MH (1976): Prediction of creatinine clearance from serum creatinine. *Nephron.*16 (1):31–41.

Cody J, Daly C, Campbell M et al (2005): Recombinant human erythropoietin for chronic renal failure anaemia in pre-dialysis patients. *Cochrane Database Syst Rev* 2005; 3: CD003266.

Collins AJ (2003): Anaemia management prior to dialysis: cardiovascular and cost benefit observations. *Nephrol Dial Transplant.*18 Suppl 2:ii2–6.

Collins AJ, Ma JZ, Xia A, Ebben J (1998): Trends in anemia treatment with erythropoietin usage and patient outcomes. *Am J Kidney Dis.* 32:S133 41.

Collins AJ, Li S, St Peter W. et al (2001): Death, hospitalization and economic associations among incident hemodialysis patients with hematocrit values of 36-39%. *J Am Soc Nephrol* 2001; 12:2465- 2413.

Committee for Proprietary Medicinal Products (2003): Guideline on comparability of medicinal products containing biotechnology derived proteins as active substance. Quality issues. Evaluation of medicines for human use. London: European Agency for the Evaluation of Medicinal Products.

Cook JD, Skikne BS (1989): Iron deficiency: Definition and diagnosis. *J Intern Med* ; 226:349-355.

Cook JD, Skikne BS, Lynch SR, Reusser ME (1986): Estimates of iron sufficiency in the US population. *Blood*.68:726-73 I.

Cooper BA, Penne EL, Bartlett LH, et al (2004): Protein malnutrition and hypoalbuminemia as predictors of vascular events and mortality in ESRD. *Am J Kidney Dis* 43:61-66

Coronel F, Herrero JA, Montenegro J, Fernandez C, Gandara A, Conesa J, et al (2003): Erythropoietin requirements: a comparative multicenter study between peritoneal dialysis and hemodialysis. *J Nephrol* 16: 697-702.

Coscarella A, Liddi R, Bach S, Zappitelli S, Urso R, Mele A, De Santis R (1998): Pharmacokinetic and immunogenic behavior of three recombinant human GM-CSF-EPO hybrid proteins in cynomolgus monkeys. *Mol Biotechnol*10 :115 –122 [Medline]

Cournoyer D, Toffelmire EB, Wells GA et al (2004): Anti-erythropoietin antibody mediated pure red cell aplasia after treatment with recombinant erythropoietin products: recommendations for minimization of risk. *J Am Soc Nephrol* 15: 2728–2734.

Coyne DW, Ling BN, Toto R, McDermott-Vitak AD, Trotman ML, Jackson L: (2000) Novel erythropoiesis stimulating protein (NESP) corrects anemia in dialysis patients when administered at reduced dose frequency compared with

Dahl E, Nordal KP, Attamadol A et al (1988): Renal osteodystrophy in predialysis patients without stainable bone aluminum. *Acta. Med. Scand.* ; 224: 157-164.

Dai CH, Price JO, Brunner T, Krantz SB (1998): Fas ligand is present in human erythroid colony-forming cells and interacts with fas induced by interferon gamma to produce erythroid cell apoptosis. *Blood* 91:1235–42.

Dallaglio G, Law E, Means Jr RT (2006): Hepcidin inhibits in vitro erythroid colony formation at reduced erythropoietin concentrations. *Blood* 107:2702–4.

Dame C, Sola MC, Lim K-C, Leach KM, Fandrey J, Ma Y, Knöpfle G, Engel JD, Bungert J (2004): Hepatic erythropoietin gene regulation by GATA-4. *J Biol Chem* 279 :2955 –2961

Davies DF, Shock NW (1950): Age changes in glomerular filtration rate, effective renal plasma flow, and tubular excretory capacity in adult males. *J Clin Invest* 29:496-507.

De Paoli Vitali E, Ricci G, Perini L, et al (1996): The determination of plasma transferrin receptor as good index of erythropoietic activity in renal anemia and after renal transplantation. *Nephron*.72:552-556.

Dean BB, Dylan M, Gano Jr A et al (2005): Erythropoiesis-stimulating protein therapy and the decline of renal function: a retrospective analysis of patients with chronic kidney disease. *Curr Med Res Opin* 21: 981–987.

Debska-Slizien A, Kawecka A, Wojnarowski K, et al (2000): Correlation between plasma carnitine, muscle carnitine and glycogen levels in maintenance hemodialysis patients. *Int J Artif Organs* 23:90-96

Drueke T (2001): Hyporesponsiveness to recombinant human erythropoietin. *Nephrol Dial Transplant* ;16 (Suppl 7): 25-8.

Drueke TB (1995): R-HuEPO hypo responsiveness—Who and why? *Nephrol Dial Transplant* 10:S62-S68 (suppl 2)

Drueke TB, Barany P, Cazzola M, et al (1997): Management of iron deficiency in renal anemia: Guidelines for the optimal therapeutic approach in erythropoietin-treated patients. *C/in Nephrol*.48: 1-8.

Drueke TB, Locatelli F, Clyne N, et al (2006): CREATE Investigators. Normalization of hemoglobin level in patients with chronic kidney disease and anemia. *N Engl J Med*. 355(20):2071-2084.

Duliege AM, Macdougall I, Dancan N et al (2005): Hematide™, a synthetic peptide-based erythropoiesis stimulating agent (ESA), demonstrates erythropoietic activity in a phase 2 single dose, dose escalation study in patients with chronic kidney disease (CKD). *Blood* 106: 3532 (abstract).

Dumont JA, Bitonti AJ, Clark D, Evans S, Pickford M, Newman SP (2005): Delivery of an erythropoietin-Fc fusion protein by inhalation in humans through an immunoglobulin transport pathway. *J Aerosol Med*18 :294 –303[CrossRef][Medline]

Eckardt KU & Casadevall N (2003): Pure red-cell aplasia due to anti erythropoietin antibodies. *Nephrol Dial Transplant* 18: 865–869.

Eckardt KU, Clyne N, Drueke TB, Locatelli F, Macdougall IC, Tsakiris D (2002): Left ventricular function and geometry variables in patients not receiving RRT enrolled in the ‘Cardiovascular Risk Reduction by Early Anemia Treatment with Epoetin beta’ (CREATE) Trial. *J Am Soc Nephrol* 13:523A (Abstract).

Eckardt KU, Mollmann M, Neumann R, et al (1989): Erythropoietin in polycystic kidneys. *J Clin Invest*.84(4):1160–1166.

Egrie JC, Browne JK (2001): Development and characterization of novel erythropoiesis stimulating protein (NESP). *Br J Cancer* 84 (suppl 1):3–10.

Egrie JC, Dwyer E, Browne JK, Hitz A, Lykos MA (2003): Darbepoetin alfa has a longer circulating half-life and greater in vivo potency than recombinant human erythropoietin. *Exp Hematol*.31(4):290-299.

Ejerblad E, Fored CM, Lindblad P, Fryzek j, Dickman PW, Elinder CG, et al (2004): Association between smoking and chronic renal failure in a nationwide population-based case-control study. *J Am Soc Nephrol* 15(8):2178-85.

El-Reshaid K, Johny KV, Hakim A, et al (1994): Erythropoietin treatment in haemodialysis patients with iron overload. *ActaHaematol*. 1994;91: 130- 135.

Engel AG, Rebouche CJ, Wilson DM, Glasgow AM, Romshe CA, Cruse RP (1981): Primary systemic carnitine deficiency. II. Renal handling of carnitine. *Neurology* 31:819- 825

Ergas D, Tsimanis A, Shtalrid M et al (2002): T-gamma large granular lymphocyte leukemia associated with a megakaryocytic thrombocytopenic purpura, Sjogren's syndrome, and polyglandular autoimmune syndrome type II, with subsequent development of pure red cell aplasia. *Am J Hematol* 69: 132–134.

Eschbach JW (1991): Erythropoietin an overview. *Am J Kidney Dis*. 18:3-9.

Eschbach JW, Abdulhadi MH, Browne JK, et al (1989): Recombinant human erythropoietin in anemic patients with end-stage renal disease: results of a phase III multicenter clinical trial. *Ann Intern Med*. 111(12):992-1000.

Eschbach JW, Egrie JC, Downing MR, Browne JK, Adamson JW (1987): Correction of the anemia of end-stage renal disease with recombinant human erythropoietin. *N Engl J Med* 316: 73–78.

Eschbach JW, Haley NR, Adamson JW (1990): The anemia of chronic renal failure: pathophysiology and effects of recombinant human erythropoietin. *Contrib Nephrol* 78:24-36.

European Best Practice Guidelines for the Management of Anaemia in Patients with Chronic Renal Failure (1999): *Nephrol Dial Transplant* 14(Suppl 5):S1-S50.

Evans AM, Fornasini G (2003): Pharmacokinetics of L-carnitine. *Clin Pharmacokinet* (in press).

Evans AM, Faul R, Fornasini G, et al (2000): Pharmacokinetics of L-carnitine in patients with end-stage renal disease undergoing long-term hemodialysis. *Clin Pharmacol Ther* 68:238-249

Faich G, Strobos J (1999): Sodium ferric gluconate complex in sucrose: Safer intravenous iron therapy than iron dextrans. *Am J Kidney Dis*.33:464-470.

Fan Q, Leuther KL, Holmes CP, et al (2006): Preclinical evaluation of Hematide, a novel erythropoiesis stimulating agent, for the treatment of anemia. *Exp Hematol*. 34:1303–1311.

Faquin WC, Schneider TJ, Goldberg MA (1992): Effect of inflammatory cytokines on hypoxia-induced erythropoietin production. *Blood* 79:1987–94.

Fattori E, Cappelletti M, Zampaglione I, et al (2005): Gene electro-transfer on an improved erythropoietin plasmid in mice and non-human primates. *J Gene Med* 7: 228–36.

Fernandez-Rodriguez AM, Guindeo-Casaslis MC, Molero-Labarta T, et al (1999): Diagnosis of iron deficiency in chronic renal failure. *Am J Kidney Dis*.34:508-513.

Finch CA, Huebers H (1982): Perspectives in iron metabolism. *N Engl J Med* 306(25):1520-8.

Fink J, Blahut S, Reddy M, Light P (2001): Use of erythropoietin before the initiation of dialysis and its impact on mortality. *Am J Kidney Dis* 37:348-355.

Fishbane S, Maesaka JK (1997): Iron management in end-stage renal disease. *Am J Kidney Dis* 29:319-333.

Fishbane S, Galgano C, Langley RC Jr, et al (1997): Reticulocyte hemoglobin content in the evaluation of iron status of hemodialysis patients. *Kidney Int* 52:217-222.

Fleming LW, Hopwood D, Shepherd AN, Stewart WK (1990): Hepatic iron in dialysed patients given intravenous iron dextran.; *J Clin Pathol* 43:119-124.

Fliser D, Bahlmann FH, Haller H (2006): EPO: reno protection beyond anemia correction. *Pediatr Nephrol* 21: 1785–1789.

Foley RN, Murray AM, Li S, Herzog CA, Mcbean AM, Eggers PW, et al (2005): Chronic kidney disease and the risk for cardiovascular disease, renal replacement, and death in the United States Medicare population, 1998 to 1999. *J Am Soc Nephrol* 16(2):489-95.

Foley RN, Parfrey PS, Harnett JD, et al (1995): Clinical and echocardiographic disease in patients starting end-stage renal disease therapy. *Kidney Int* 47:186-192.

Foley RN, Parfrey PS, Harnett JD, Kent GM, Munay DC, Barre PE (1996): The impact of anaemia on cardiomyopathy, morbidity and mortality in end-stage renal disease. *Am J Kidney Dis* 28:53-61.

Foley RN, Parfrey PS, Morgan J, et al (2000): Effect of hemoglobin levels in hemodialysis patients with asymptomatic cardiomyopathy. *Kidney Int* 58:1325-1335.

Foley RN, Parfrey PS, Kent GM, Harnett JD, Murray DC; Barre PE (1998): Long-term evolution of cardiomyopathy in dialysis patients. *Kidney Int* 54:1720-1725.

Ford L, berg J (2008): Delay in separating blood samples affects creatinine measurement using the Roche kinetic Jaffe method. *Ann Clin biochem.* 45(Pt 1):83-7.

Fored CM, Ejerblad E, Fryzek JP, Lambe M, Lindblad P, Nyren O, et al (2003): Socio-economic status and chronic renal failure: a population-based case-control study in Sweden. *Nephrol Dial Transplant* 18(1):82-8.

Fox CS, Larson MG, Leip EP, Culleton b, Wilson PW, Levy D (2004): Predictors of new-onset kidney disease in a community-based population. *JAMA* 291(7):844-50.

Franson KL, Burggraaf, Bouman-Trio EA, Cohen AF, Miller BE, Jang H, Marciniak SL, van de Ketterij EPS, Frederick B, Jiao Q, Getsy J, Bald EH, Walker H, Schantz A, Ford JA, Mascioli K, Kowalchick JB (2005): A phase I, single and fractionated, ascending dose study evaluating the safety, pharmacokinetics, pharmacodynamics, and immunogenicity of an erythropoietic mimetic antibody fusion protein, CTNO528 in healthy male subjects. *Blood* 106 :146b

Fraser CL and AI Arieff. (1988): Nervous system complications in uremia. *Ann. Intern. Med.* 109: 143-153.

Ganz T (2003): Hcpidin, a key regulator of iron metabolism and mediator of anemia of inflammation. *Blood* 102(3):783-788.

Garabed E Eknayan and Nathan W Levin. (2002): NKF-DOQI clinical practice Guidelines for chronic kidney disease: evaluation, classification, and stratification. *The American Journal of kidney disease*; 39: 1-307.

Garewal G, Ahluwalia J, Varma N, et al (2004): Parvovirus B19 infection-associated red-cell aplasia in renal-transplant recipients: Clues from the bone marrow. *Transplantation* 77:320-321.

Garg AX, Kiberd bA, Clark WF, Haynes Rb, Clase CM (2002): Albuminuria and renal insufficiency prevalence guides population screening: results from the NHANES III. *Kidney Int* 61(6):2165-75.

Germain M, Ram CV, Bhaduri S, Tang KL, Klausner M, Curzi M (2005): Extended epoetin alfa dosing in chronic kidney disease patients: a retrospective review. *Nephrol Dial Transplant* .20(10):2146-2152.

Giatras I, Lau J, Levey AS (1997): Effect of angiotensin-converting-enzyme inhibitors on the progression of nondiabetic renal disease: a meta-analysis of randomized trials. Angiotensin-Converting-Enzyme Inhibition and Progressive Renal Disease Study Group. *Ann Intern Med* 127:337-45.

Giovenali P, Fenocchio D, Montanari G, et al (1994): Selective trophic effect of L-carnitine in type I and IIa skeletal muscle fibres. *Kidney Int* 46:1616 -1619.

Goicoechea M, Martin J, de Sequera P, Quiroga JA, Ortiz A, Carreño V, et al (1998): Role of cytokines in the response to erythropoietin in hemodialysis patients. *Kidney Int* 54:1337-43.

Gokal R, Millard PR, Weatherall DJ, et al (1979): Iron metabolism in hemodialysis patients. A study of the management of iron therapy and overload. *Q J Med*. 191: 369-391

Goldberg J, Jin Q, Ambroise Y, Satoh S, Desharnais J, Capps K, Boger DL (2002): Erythropoietin mimetics derived from solution phase combinatorial libraries. *J Am Chem Soc* 124 :544 – 555
[CrossRef][Medline]

Goldsmith D, Al-Khoury S, Shah N, Covic A (2006): Anaemia after renal transplantation-role of immunosuppressive drugs and a pathophysiological appraisal. *Nephron Clin Pract*;104:c69–74.

Golper TA, Wolfson M, Ahmad S, et al (1990): Multicenter trial of L-carnitine in maintenance hemodialysis patients. I. Carnitine concentrations and lipid effects. *Kidney Int* 38:904- 911.

Goodnough LT, Skikne B, Brugnara C (2000): Erythropoietin, iron, and erythropoiesis. *Blood* 96(3):823-33.

Gordeuk VR, Sergueeva AI, Miasnikova GY, et al (2004): Congenital disorder of oxygen sensing: association of the homozygous Chuvash polycythemia VHL mutation with thrombosis and vascular abnormalities but not tumors. *Blood* 103: 3924–32

Gouva C, Nikolopoulos P, Ioannidis JP, Siamopoulos KC (2004): Treating anemia early in renal failure patients slows the decline of renal function: a randomized controlled trial. *Kidney Int* 66: 753–760.

Grimm C, Wenzel A, Groszer M et al (2002): HIF-1-induced erythropoietin in the hypoxic retina protects against light-induced retinal degeneration. *Nat Med* 8: 718–724.

Grutzmacher P, Tsobanelis T, Roth P, et al (1992): Effect of recombinant human erythropoietin on iron balance in maintenance hemodialysis: Theoretical considerations, clinical experience and consequences. *Clin Nephrol.* 38(Suppl 1):S92-S97.

Gudjonsson H, Li B, Shug A, et al (1985): Studies of carnitine metabolism in relation to intestinal absorption. *Am J Physiol* 248:G313-G319.

Guest SS & Levitt L (2003): Pure red-cell aplasia secondary to antierythropoietin antibodies. *N Engl J Med* 349: 2572–2573.

Gunnell J, Yeun JY, Depner TA, Kaysen GA (1999): Acute-phase response predicts erythropoietin resistance in hemodialysis and peritoneal dialysis patients. *Am J Kidney Dis* 33:63-72.

Gupta A, Amin NB, Besarab A et al (1999): Dialysate iron therapy: infusion of soluble ferric pyrophosphate via the dialysate during hemodialysis. *Kidney Int* 55: 1891–1898.

Guyatt GH, Oxman AD, Ali M, et al (1992): Laboratory diagnosis of iron-deficiency anemia: An overview. *J Gen Intern Med.*7:145-153.

Hampers CL, Streiff R, Nathan DG, et al (1967): Megaloblastic hematopoiesis in uremia and in patients on long-term hemodialysis. *N Engl J Med.*276:551-554.

Hamstra RD, Block MH, Schocket AL (1980): Intravenous iron dextran in clinical medicine. *JAMA.*243:1726-1731.

Haselbeck A, Bailon P, Pahlke W, et al (2002): The discovery and characterization of CERA, an innovative agent for the treatment of anemia. *Blood* 100: 227A (abstr 857).

Hastka J, Lasserre JJ, Schwarzbeck A. et al (1993): Zinc protoporphyrin in anemia of chronic disorders. *Blood.* 81: 1200-1204.

Hayashi T, Suzuki A, Shoji T, et al (2000): Cardiovascular effect of normalizing the hematocrit level during erythropoietin therapy in predialysis patients with chronic renal failure. *Am J Kidney Dis.* 35:250-256.

Health Care Financing Administration. 2000 Annual Report, End-Stage Renal Disease Clinical Performance Measures Project. Baltimore, (MD)(2000): Department of Health and Human Services, Health Care Financing Administration, Office of Clinical Standards and Quality.

Hector R., Cordova, MD, Jolio E. Benabe, MD and Manuel Martinez (1991): Clinical manifestations and complications of the uremic state. Principles and practice of nephrology ; 18: 690-698.

Henderson PA, Hillman RS (1969): Characteristics of iron dextran utilization in man. *Blood*.34:357-375.

Henrich WL. (1999): Infection and immunity, principles and practice of dialysis. Williams and willkins B; 2nd edition: 281.

Hoan B, Kessler M, Hestin D, Fondu P (1995): Risk factors for bacterial infections in chronic haemodialysis adult patients: A multicenter prospective survey. *Nephrol Dial Transplant* 10:377-381.

Holland DC, Lam M (2000): Predictors of hospitalization and death among pre- dialysis patients: a retrospective cohort study. *Nephrol Dial Transplant* 15:650-658.

Horl W. H (1999): Is there role for adjuvant therapy in patients being treated with epoetin? *Nephrol. Dial. Transplant*.14, Suppl. 2, 50–60.

Horl WH, Macdougall IC, Ross& J, Rutkowski B. Wauters JP, Valdemabano F (2003): Predialysis survey on anemia management: patient referral. *Am J Kidney Dis* 41:49-61

Hsu CY, McCulloch CE, Curhan GC (2002): Epidemiology of anemia associated with chronic renal insufficiency among adults in the United States: results from the Third National Health and Nutrition Examination Survey. *J Am Soc Nephrol*. 13(2):504–510.

Imagawa S, Nakano Y, Obara N, et al (2003): A GATA-specific inhibitor (K-7174) rescues anemia induced by IL-1beta, TNF-alpha, or L-NMMA. *FASEB J*;17:1742-1744. Abstract

Imagawa S, Yamamoto M, Miura Y (1997): Negative regulation of the erythropoietin gene expression by the GATA transcription factors. *Blood* 89 :1430-1439 Novel Erythropoiesis-Stimulating..12 \ 14

Imamura R, Isaka Y, Ichimaru N et al (2007): Carbamylated erythropoietin protects the kidneys from ischemia-reperfusion injury without stimulating erythropoiesis. *Biochem Biophys Res Commun* 353: 786–792.

Jadoul M, Vanrenterghem Y, Foret M, Walker R, Gray SJ (2004): Darbepoetin alfa administered once monthly maintains haemoglobin levels in stable dialysis patients. *Nephrol Dial Transplant*.19(4):898-903.

James GD, Sealey JE, Alderman M, Ljungman S, Mueller FB, Pecker MS, et al (1988): A longitudinal study of urinary creatinine and creatinine clearance in normal subjects. Race, sex, and age differences. *Am J Hypertens*.1(2):124-31.

Jelkmann W (1992): Erythropoietin: structure, control of production, and function. *Physiol Rev*.72: 449–89.

Johnson DL, Jolliffe LK (2000): Erythropoietin mimetic peptides and the future. *Nephrol Dial Transplant* 15: 1274–77.

Jurkovitz CT, Abramson JL, Vaccarino LV, Weintraub WS, McClellan WM (2003): Association of high serum creatinine and anemia increases the risk of coronary events: results from the prospective community-based Atherosclerosis Risk In Communities (ARIC) study. *J Am Soc Nephrol* 14:2919–25.

Kaiser L, Schwartz KA.(1985): Aluminum-induced anemia, *Am J Kidney Dis.*6:348-352.

Kakeda M, Hiratsuka M, Nagata K, et al (2005): Human artificial chromosome (HAC) vector provides long-term therapeutic transgene expression in normal human primary fibroblasts. *Gene Ther* 12: 852–56.

Kalantar-Zadeh K, Hoffken B, Wunsch H, et al (1995): Diagnosis of iron deficiency anemia in renal failure patients during the post-erythropoietin era. *Am J Kidney Dis.*26:292-299.

Kalantar-Zadeh K, Kopple JD, Deepak S, et al (2002): Food intake characteristics of haemodialysis patients as obtained by food frequency questionnaire. *J Ren Nutr* 12:17-31

Kalantar-Zadeh K, McAllister CJ, Lehn RS, Lee GH, Nissenson AR, Kopple JD (2003): Effect of malnutrition-inflammation complex syndrome on EPO hyporesponsiveness in maintenance hemodialysis patients. *Am J Kidney Dis.* 42:761-73.

Kasiske BL, Guijarro C, Massy ZA, Wiederkehr MR, Ma JZ (1996):Cardiovascular disease after renal transplantation. *J Am Soc Nephrol* 7:158–65.

Katavetin P, Tungsanga K, Eiam-Ong S, Nangaku M (2007): Antioxidative effects of erythropoietin. *Kidney International* 72, S1–S3.

Kaysen GA (2001): The micro-inflammatory state in uremia: causes and potential consequences. *J Am Soc Nephrol* 12:1549-57.

Kishimoto T, Akira S, Taga T (1992): Interleukin-6 and its receptor: a paradigm for cytokines. *Science* 258:593-7.

Kleiner MJ, Van Wyck DB, Kaupke J, Kirlin LF (1995): The role of iron and other factors in patients unresponsive to erythropoietin therapy. *Semin Dial* 8:29-34.

Klemm A., Sperschneider H., Lauterbach H., Stein G (1994): Is folate and vitamin B12 supplementation necessary in chronic hemodialysis patients with EPO treatment? (letter). Clin. Nephrol. 42, 343–345.

Klingmuller U, Lorenz U, Cantley LC, Neel BG, Lodish HF (1995): Specific recruitment of SH-PTP1 to the erythropoietin receptor causes inactivation of JAK2 and termination of proliferative signals. *Cell* 80: 729–38.

Kochendoerfer GG, Chen SY, Mao F, et al (2003): Design and chemical synthesis of a homogeneous polymer-modified erythropoiesis protein. *Science*.; 299:884-887. Abstract

Komatsu et al (1993): Blood 82, 456

Koury MJ, Bondurant MC (1990): Erythropoietin retards DNA breakdown and prevents programmed death in erythroid progenitor cells. *Science* 248: 378–81.

Krantz SB (1974): Pure red-cell aplasia. *N Engl J Med* 291: 345–350.

Kuriyama S, Tomonari H, Yoshida H et al (1997): Reversal of anemia by erythropoietin therapy retards the progression of chronic renal failure, especially in nondiabetic patients. *Nephron* 77: 176–185.

Lacombe C, Mayeux P (1999): The molecular biology of erythropoietin. *Nephrol Dial Transplant* 14(Suppl 2): 22–28.

Lai P. H., R. Everett, F. F. Wang, T. Arakawa, E. Goldwasser (1986): J. Biol. Chem. 261, 3116

Landry R, Jacobs PM, Davis R, Shenouda M, Bolton WK (2005): Pharmacokinetic study of ferumoxytol: A new iron replacement therapy in normal subjects and hemodialysis patients. *Am J Nephrol* 25:400-410.

Lazarus JM, Lowrie EG, Hampers CL et al. (1975): Cardiovascular disease in uraemic patients on haemodialysis. *Kidney international* ; 7:167-175.

Lee DE, Son W, Ha BJ, Oh MS, Yoo OJ (2006): The prolonged half-lives of new erythropoietin derivatives via peptide addition. *Biochem Biophys Res Commun* 339 :380–385 [CrossRef] [Medline]

Lee-Huang S, Lin JJ, Kung HF, Huang PL, Lee L, Huang PL (1993): The human erythropoietin-encoding gene contains a CAAT box. TATA boxes and other transcriptional regulatory elements in its 5' flanking region. *Gene* 128:227–36.

Levey AS, Bosch JP, Lewis JB, et al (1999): A more accurate method to estimate glomerular filtration rate from serum creatinine: a new prediction equation. Modification of Diet in Renal Disease Study Group. *Ann Intern Med* 130:461-70.

Levey AS, Greene T, Kusek J, Beck G (2000): A simplified equation to predict glomerular filtration rate from serum creatinine. *J Am Soc Nephrol* 11:155A.

Levin A (2002): Anemia and left ventricular hypertrophy in chronic kidney disease populations: a review of the current state of knowledge. *Kidney Int.* 61(Suppl 80):S35-S38.

Levin A, Djurdjev O, Barrett B, Burgess E, Carlisle E, Ethier J, Jindal K, et al (2001): Cardiovascular disease in patients with chronic kidney disease: getting to the heart of the matter. *Am J Kidney Dis.* 38:1398–407.

Levin A, Thompson CR, Ethier J, Carlisle EJ, Tobe S, Mendelssohn D, Burgess F, et al (1999): Left ventricular mass index increase in early renal disease: impact of decline in hemoglobin. *Am J Kidney Dis.* 34:125–34.

Levin NW, Fishbane S, Valdés Cañeno F, et al, (2007) for the MAXIMA study investigators: Intravenous methoxy polyethylene glycol-epoetin beta for haemoglobin control in patients with chronic kidney disease who are on dialysis: a randomised non-inferiority trial (MAXIMA). *Lancet* 370: 1415-1421.

Levin NW, Lazarus JM, Nissenson AR (1993): Maximizing patient benefits with epoetin alfa therapy. National Cooperative rHu erythropoietin study in patients with chronic renal failure. *Am J Kidney Dis.* 22 (Suppl I):3 -12.

Lin FK, Suggs S, Lin CH, et al (1985): Cloning and expression of the human erythropoietin gene. *Proc Natl Acad Sci USA* 82: 7580–84.

Lindsay RM, Moorthy AV, Koeas F and Linton AL (1975): Platelet function in dialyzed and non dialyzed patients with chronic renal failure. *Clinical nephrology* ; 4:52-57.

Ling B, Walczyk M, Agarwal A, Carroll W, Liu W, Brenner R (2005): Darbepoetin alfa administered once monthly maintains hemoglobin concentrations in patients with chronic kidney disease. *Clin Nephrol.* 63(5):327- 334

Lippin Y, Dranitzki-Elhalel M, Brill-Almon E, et al (2005): Human erythropoietin gene therapy for patients with chronic renal failure. *Blood* 106: 2280–86.

Lipschitz DA, Cook JD, Finch CA (1974): A clinical evaluation of serum ferritin as an index of iron stores. *N Engl J Med.* 290:1213-1216.

Liu Y, Coresh J, Eustace JA, et al (2004): Association between cholesterol level and mortality in dialysis patients: Role of inflammation and malnutrition. *JAMA* 291:451-459

Locatelli F, Aljama P, Barany P, Canaud B, Carrera F, Eckardt KU, Horl WH, et al (2004): Revised European Best Practice Guidelines for the management of anaemia in patients with chronic renal failure. *Nephrol Dial Transplant* 19(Suppl 2):1–47.

Locatelli F, Canaud B, Giacardy F, et al (2003): Treatment of anaemia in dialysis patients with unit dosing of darbepoetin alfa at a reduced dose frequency relative to recombinant human erythropoietin (rHuEpo). *Nephrol Dial Transplant* 18:362-369.

Locatelli F, Clyne N, Drueke TB, Eckardt KU; Macdougall IC, Tsakiris D (2002): Geographical distribution of cardiovascular disease in patients with chronic kidney disease not receiving renal replacement therapy enrolled in the CREATE Study. *J Am Soc Nephrol* 13:760A (Abstract).

Locatelli F, Conte F, Mxcelli D (1998): The impact of haematocrit levels and erythropoietin treatment on overall and cardiovascular mortality and morbidity - the experience of the Lombardy Dialysis Registry. *Nephrol Dial Transplant* 13:1642-1644.

Locatelli F, Pisoni RL, Bragg JL, et al (2002): Higher hemoglobin levels are associated with lower rates of mortality and hospitalization among European hemodialysis patients: results from the DOPPS. *Nephrol Dial Transplant* 17(Suppl 1):23A (Abstract).

Lombard KA, Olson A , Nelson SE, Rebouche CJ (1989): Carnitine status of lactoovovegetarians and strict vegetarian adults and children. *Am J Clin Nutr* 50:301-306, 1989

London GM, Fabiani F, Marchas SJ, De Verne Joul MC, Gverim AP and Satar ME et al (1987): Uremic cardiomyopathy and inadequate left ventricular hypertrophy. *Kidney international*; 51: 973-980.

Ma JZ, Ebben J, Xia H, Collins AJ (1999): Hematocrit level and associated mortality in hemodialysis patients. *J Am Soc Nephrol* 10:610-619

Macdougall IC (2005): CERA (Continuous Erythropoietin Receptor Activator): a new erythropoiesis-stimulating agent for the treatment of anemia. *Curr Hematol Rep* 4: 436–440.

Macdougall IC (2006): The management of anaemia in chronic kidney disease - current and future issues. *Eur Ren Genitourin Dis.* 35-36.

Macdougall IC, Eckardt KU (2006): Novel strategies for stimulating erythropoiesis and potential new treatments for anaemia. *Lancet.*368:947-953.

Macdougall IC, Gray SJ, Elston O, et al (1999): Pharmacokinetics of novel erythropoiesis stimulating protein compared with epoetin alfa in dialysis patients. *J Am Soc Nephrol* 10: 2392–95.

Macdougall IC, Robson R, Opatrna S, et al (2006): Pharmacokinetics and pharmacodynamics of intravenous and subcutaneous continuous erythropoietin receptor activator (C.E.R.A.) in patients with chronic kidney disease. *Clin JAm Soc Nephrol* 1:1211-1215.

Macdougall IC, Tucker B, Thompson J, et al (1996): A randomized controlled study of iron supplementation in patients treated with erythropoietin. *Kidney Int.* 50: 1694-1699.

Macdougall IC, Tucker B, Yaqoob M, et al (2006): Hematide_, a synthetic peptide-based erythropoiesis stimulating agent (ESA), achieves correction of anemia and maintains hemoglobin (Hb) in patients with chronic kidney disease (CKD) not on dialysis [abstract]. *J Am Soc Nephrol*; F-FC079.

- Macdougall IC, Walker R, Provenzano R, et al (2006):** C.E.R.A. (continuous erythropoietin receptor activator) administered at extended intervals corrects anemia and maintains stable Hb levels in patients with CKD not on dialysis. *J Am Soc Nephrol* 17:619A, (abstr SAPO208)
- Magana L, Dhar SK, Smith EC, Martinez C (1984):** Iron absorption and utilization in maintenance hemodialysis patients: Oral and intravenous routes. *Mt Sinai J Med*.51:180-183.
- Magee CC, Pascual M (2004):** Update in renal transplantation. *Arch Intern Med* 164:1373-1388.
- Maini RN, Taylor PC, Szechinski J, Pavelka K, Bröhl J, Balint G, et al (2006):** Double-blind randomized controlled clinical trial of the interleukin-6 receptor antagonist, tocilizumab, in European patients with rheumatoid arthritis who had an incomplete response to methotrexate. *Arthritis Rheum* 54:2817-29.
- Maitani Y, Moriya H, Shimoda N, Takayama K, Nagai T (1999):** Distribution characteristics of entrapped recombinant human erythropoietin in liposomes and its intestinal absorption in rats. *Int J Pharm* 185 :13 –22,[CrossRef][Medline]
- Marchasin S, Wallerstein RO (1964):** The treatment of iron-deficiency anemia with intravenous iron dextran. *Blood*.23: 354-358.
- Mareschal-Desandes R, Andre JL, Lesesve JF, Krier MJ, Bordigoni P, Humbert JC (2003):** Successful treatment of chronic parvovirus B19 infection by high-dose immunoglobulin. *Clin Nephrol* 59:311–2.
- Markowitz GS, Kahn GA, Feingold RE et al (1997):** An evaluation of the effectiveness of oral iron therapy in hemodialysis patients receiving recombinant human erythropoietin. *Clin Nephrol*.48:34-40.

Marsden JT (2006): Erythropoietin measurement and clinical applications. *Ann Clin Biochem* 43:97–104.

Marzo A, Arrigoni Martelli E, Mancinelli A, et al (1991): Protein binding of L-carnitine family components. *Eur J Drug Metab Pharmacokinet* 364-368. (special no. 3)

Masaki Y, Oka N, Furuya H et al (1992): Clinical use of serum erythropoietin determination by the recombinant EPO RIA kit. *Kaku Igaku* 29: 701-707.

Maxwell P (2003): HIF-1: an oxygen response system with special relevance to the kidney. *J Am Soc Nephrol* 14: 2712–22.

Maxwell PH, Osmond MK, Pugh CW, et al (1993): Identification of the renal erythropoietin-producing cells using transgenic mice. *Kidney Int* 44:1149-1162.

McClellan W, Aronoff SL, Bolton WK, et al (2004): The prevalence of anemia in patients with chronic kidney disease. *Curr Med Res Opin.* 20(9):1501-1510.

McClellan WM, Flanders WD, Langston RD, Jurkovitz C, Presley R (2002): Anemia and renal insufficiency are independent risk factors for death among patients with congestive heart failure admitted to county hospitals: a population-based study. *J Am Soc Nephrol* 13:1928–36.

McDonough MA, Li V, Flashman E et al (2006): Cellular oxygen sensing: crystal structure of hypoxia-inducible factor prolyl hydroxylase (PHD2). *Proc Natl Acad Sci USA* 103: 9814–9819 (E-pub, 2006 Jun 16).

McGonigle RJ, Wallin JD, Shadduck RK, Fisher JW (1984): Erythropoietin deficiency and inhibition of erythropoiesis in renal insufficiency. *Kidney Int.* 25:437–44.

McIntosh JF, Moller E, Van Slyke DD (1928): Studies of Urea Excretion. III: The Influence of body Size on Urea Output. *J Clin Invest.* 6(3):467-83.

Melnikova I (2006): Anaemia therapies. *Nat Rev Drug Discov.* 5:627-628.

Mitragotri S, Blankschtein D, Langer R (1995): Ultrasound-mediated transdermal protein delivery. *Science* 269 :850 –853

Mittman N, Sreedhara R, Mushnick R, et al (1997): Reticulocyte hemoglobin content predicts functional iron deficiency in hemodialysis patients receiving rHuEP0. *Am J Kidney Dis.* 30:912-922.

Miyake T, Kung CK, Goldwasser E (1977): Purification of human erythropoietin. *J Biol Chem.* 252: 5558–64.

Miyashita K, Tojo A, Kimura K, et al (2004): Blood pressure response to erythropoietin injection in hemodialysis and predialysis patients. *Hypertens Res.* 27(2):79-84.

Moreb J, Popovtzer MM, Friedlaender MM, et al (1983): Evaluation of iron status in patients on chronic hemodialysis: Relative usefulness of bone marrow hemosiderin, serum ferritin, transferrin saturation, mean corpuscular volume and red cell protoporphyrin. *Nephron.* 35: 196-200.

Muirhead N (1999): Erythropoietin and renal transplantation. *Kidney Int Suppl* 69:S86–92.

Nakano Y, Imagawa S, Matsumoto K, et al (2004): Oral administration of K-11706 inhibits GATA binding activity, enhances hypoxia-inducible factor 1 binding activity, and restores indicators in an in vivo mouse model of anemia of chronic disease. *Blood*;104:4300-4307. Abstract

Nangaku M (2006): Chronic hypoxia and tubule interstitial injury: a final common pathway to end-stage renal failure. *J Am Soc Nephrol* 17: 17–25.

Nangaku M, Eckardt KU (2006): Pathogenesis of renal anemia. *Semin Nephrol*;26:261–8.

National Institute for Health and Clinical Excellence (NICE) (2005): Referral for suspected cancer. London (NICE Guideline CG27) [cited 8 May 2007] Available from url: <http://www.nice.org.uk/nicemedia/pdf/cg027niceguideline.pdf>

National Institute of Diabetes and Digestive and Kidney Diseases (2005): National Institutes of Health. United States Renal Data System, *USRDS 2005 Annual Data Report: Atlas of End-Stage Renal Disease in the United States*.

National Kidney Foundation (1997): NKF-DOQI Clinical Practice Guidelines for the Treatment of Anemia of Chronic Renal Failure. National Kidney Foundation-Dialysis Outcomes Quality Initiative. *Am J Kidney Dis.* 30 (Suppl 3):S 192-S 240.

National Kidney Foundation (2000): K/DOQI Clinical Practice Guidelines for Anemia of Chronic Kidney Disease. *Am J Kidney Dis.* 2001. 37(Suppl 1):S182- S 238.

National Kidney Foundation (2002): Kidney Disease Outcome Quality Initiative (K/DOQI) Advisory Board K/DOQI clinical practice guidelines for chronic kidney disease: evaluation, classification and stratification. Kidney Disease Outcome Quality Initiative. *Am J Kidney Dis.* 39(2 Suppl 2):S1-246.

National Kidney Foundation (2006): KDOQI clinical practice guidelines and clinical practice recommendations for anemia in chronic kidney disease [published correction appears in *Am J Kidney Dis.* 2006; 48(3):518] *Am J Kidney Dis.* 47(5, suppl 3):S11-S145.

Nemeth E, Ganz T (2006): Heparin and iron-loading anemias. *Haematologica* 91:727–32.

Newman DJ, Mattock Mb, Dawnay AbS, Kerry S, McGuire A, Yakoob M, et al (2005): Systematic review on urine albumin testing for early detection of diabetic complications. *Health Technol Assess.* 2005 ; 9 (30). [cited 20 Dec 2007].Available from url: [http : //www .nchta.org /fullmono/ mon 930.pdf](http://www.nchta.org/fullmono/mon930.pdf)

Newman DJ, Pugia MJ, Lott JA, Wallace JF, Hiar AM (2000): Urinary protein and albumin excretion corrected by creatinine and specific gravity. *ClinChimActa* 294(1-2):139-55.

Ng T, Marx G, Littlewood T, Macdougall I (2003): Recombinant erythropoietin in clinical practice. *Postgrad Med J.* 79(933):367-376.

Nissenson AR, Strobos J (1999): Iron deficiency in patients with renal failure. *Kidney Int (Suppl)* 69:S18-21.

Nishimoto N, Kishimoto T, Yoshizaki K (2000): Anti-interleukin 6 receptor antibody treatment in rheumatic disease. *Ann Rheum Dis.* 59 (suppl I):121-7.

Nissenson AR, Collins AJ, Hurley J, et al (2001): Opportunities for improving the care of patients with chronic renal insufficiency: current practice patterns. *J Am Soc Nephrol* 12:1713-20.

Nissenson AR, Lambrecht LL, Anderson P, Schweitzer S (1996): Ferric gluconate (Ferrlecit[®]) is safe in hemodialysis patients who react to iron dextran. *J Am Soc Nephrol.* 7: 1460A. Abstract.

Nissenson AR, Lindsay RM, Swan S, et al (1999): Sodium ferric gluconate complex in sucrose is safe and effective in hemodialysis patients: North American clinical trial. *Am J Kidney Dis.* 33:471-482.

Nissenson AR, Swan SK, Lindberg JS, et al (2002): Randomized, controlled trial of darbepoetin alfa for the treatment of anemia in hemodialysis patients. *Am J Kidney Dis.* 40(1):110-118.

Nuwayri-salti N, Daouk M, Sa'ab G, Salem Z (1992): Hematologic parameters and iron stores in patients on hemodialysis for chronic renal failure. *Clin Nephrol.* 38:101-104.

O'Sullivan DA, McCarthy JT, Kumar R, Williams AW (1998): Improved biochemical variables, nutrient intake, and hormonal factors in slow nocturnal hemodialysis: a pilot study. *Mayo Clin Proc* 73(11):1035-1045.

Oberg BP, McMenamin E, Lucas FL, et al (2004): Increased prevalence of oxidant stress and inflammation in patients with moderate to severe chronic kidney disease. *Kidney Int.* 65:1009-1016.

Obrador GT, Roberts T, St Peter WL, Frazier E, Pereira BJ, Collins AJ (2001): Trends in anemia at initiation of dialysis in the United States. *Kidney Int.* 60:1875–84.

Obrador GT, Ruthazer R, Arora P, Kausz AT, Pereira BJ (1999): Prevalence of and factors associated with suboptimal care before initiation of dialysis in the United States. *J Am Soc Nephrol* 10:1793–800.

Offermann G (2004): Immunosuppression for long-term maintenance of renal allograft function. *Drugs* 64:1325-1338.

O'Hare AM, Bertenthal D, Covinsky KE, Landefeld CS, Sen S, Mehta K, et al (2006): Mortality risk stratification in chronic kidney disease: one size for all ages? *J Am Soc Nephrol* 17(3):846-53.

Old CW, Flannery EP, Grogan TM, Stone WH. San Antonio RP (1978): Azathioprine-induced pure red blood cell aplasia. JAMA ;240:552–4.

Olsen NJ, Stein CM (2004): New drugs for rheumatoid arthritis. N Engl J Med 350:2167-79.

Osada S, Ebihara I, Setoguchi Y et al (1999): Gene therapy for renal anemia in mice with polycystic kidney using an adenovirus vector encoding the human erythropoietin gene. Kidney Int 55: 1234–1240.

Owen WF, Lowrie EG. (1998): C-reactive protein as an outcome predictor for maintenance hemodialysis patients. Kidney Int ;54: 627-36.

Pace S, Longo A, Toon S, Rolan P, Evans AM (2000): Pharmacokinetics of propionyl-L-carnitine in humans: Evidence for saturable tubular reabsorption. Br J Clin Pharmacol 50:441-448.

Padhi D, Ni L, Cooke B, Marino R, Jang G (2006): An extended terminal half life for darbepoetin alfa: results from a single-dose pharmacokinetic study in patients with chronic kidney disease not receiving dialysis. Clin Pharmacokinet. 45(5):503-510.

Pagel H, Jelkmann W, Weiss C (1989): O₂-supply to the kidneys and the production of erythropoietin. Respir Physiol 77:111–7.

Papavasiliou EC, Gouva C, Siamopoulos KC, Tselepis AD (2005): Erythrocyte PAF-acetylhydrolase activity in various stages of chronic kidney disease. Effect of long term therapy with erythropoietin. Kidney Int 68:246-255

Parfrey PS, Foley RN, Harnett JDE, Kent GM, Murray DC and Barre PE (1996): Outcome and risk factors for left ventricular disorders in chronic uraemia. Nephrol Dial Transplant; 11:1277-1285.

Parker PA, Izard MW, Maher JF (1979): Therapy of iron deficiency anemia in patients on maintenance dialysis. *Nephron*. 23:181-186.

Pascual J, Teruel JL, Maya JL, Liano F, Jimenez-Mena M, Ortuno J.(1991): Regression of left ventricular hypertrophy after partial correction of anemia with erythropoietin in patients on hemodialysis: a prospective study. *Clin Nephrol*;35:280-287.

Patruta SI, Edlinger R, Sunder-Plassmann G, Horl WH (1998): Neutrophil impairment associated with iron therapy in hemodialysis patients with functional iron deficiency. *J Am Soc Nephrol*. 9:655-663.

Perrone RD, Steinman TI, Beck GJ, Skibinski CI, Royal HD, Lawlor M, et al (1990): Utility of radioisotopic filtration markers in chronic renal insufficiency: simultaneous comparison of 125I-iothalamate, 169Yb-DTPA, 99mTc-DTPA, and inulin. The Modification of Diet in Renal Disease Study. *Am j Kidney Dis*. 16(3):224-35.

Phrommintikul A, Haas SJ, Elsik M, Krum H (2007): Mortality and target haemoglobin concentrations in anaemic patients with chronic kidney disease treated with erythropoietin: a meta-analysis. *Lancet* 369:381– 8.

Pinto-Sietsma SJ, Navis G, Janssen WM, de Zeeuw D, Gans RO, De jong PE (2003): A central body fat distribution is related to renal function impairment, even in lean subjects. *Am j Kidney Dis*. 41(4):733-41.

Pisoni RL, Port FK, Bragg JL, et al (2002): Anaemia management practices in Europe: results from DOPPS. *Nephrol Dial Transplant* 17(Suppl 1):23A (Abstract).

Pons R, De Vivo D (1995): Primary and secondary carnitine deficiency syndromes. *J Child Neurol* 10:2S8-2S24 (suppl 2)

Popovsky MA, Ransil BJ (1996): Long-term impact of recombinant human erythropoietin on transfusion support in patients with chronic renal failure. *Immunohematol.* 12(1):1-3.

Porth CM (2002): Pathophysiology Concepts of Altered Health States. 6th ed. Philadelphia, Pa: Lippincott.

Portoles J, Torralbo A; Martin P, Rodrigo J, Herrero JA. Barrientos A (1997): Cardiovascular effects of recombinant human erythropoietin in predialysis patients. *Am J Kidney Dis* 1997;29:541-548.

Potassman I, Better OS (1983): The role of secondary hyperparathyroidism in the anemia of chronic renal failure. *Nephron.* 33:229-231.

Preiss DJ, Godber IM, Lamb EJ, Dalton RN, Gunn IR (2007): The influence of a cooked-meat meal on estimated glomerular filtration rate. *Ann Clin biochem* 44(Pt 1):35-42.

Price CP, Newall RG, Boyd JC (2005): Use of protein: Creatinine ratio measurements on random urine samples for prediction of significant proteinuria: A systematic review. *Clin Chem.* 51(9):1577-86.

Price S, Wilson L. (2003): Pathophysiology: Clinical Concepts of Disease Processes. 6th ed. St Louis, Mo: Mosby

Pronai W, Riegler-Keil M, Silberbauer K, Stockenhuber F (1995): Folic acid supplementation improves erythropoietin response. *Nephron* 71, 395-399.

Provenzano R, Besarab A, Macdougall IC, et al (2007): for the BA16528 Study Group: The continuous erythropoietin receptor activator (C.E.R.A.) corrects anemia at extended administration intervals in patients with chronic kidney disease not on dialysis: results of a phase II study. *Clin Nephrol* 67:306-317.

Provenzano R, Bhaduri S, Singh AK (2005): PROMPT Study Group. Extended epoetin alfa dosing as maintenance treatment for the anemia of chronic kidney disease: the PROMPT study. *Clin Nephrol.* 64(2):113-123.

Provenzano R, Garcia-Mayol L, Suchinda P, et al (2004): POWER Study Group. Once-weekly epoetin alfa for treating the anemia of chronic kidney disease. *Clin Nephrol.* 61(6):392-405.

Pru C, Eaton J, Kjellstrand C (1985): Vitamin C intoxication and hyperoxalemia in chronic hemodialysis patients. *Nephron.*39: 112-116.

Punnonen K, Irjala K, Rajamaki A (1994): Iron deficiency anemia is associated with high concentrations of transferrin receptor in serum. *C/in Chem.* 40:774-776.

Qureshi SA, Kim RM, Konteatis Z, Biazzo DE, Motamedi H, Rodrigues R, Boice JA, Calaycay JR, Bednarek MA, Griffin P, Gao YD, Chapman K, Mark DF (1999): Mimicry of erythropoietin by a nonpeptide molecule. *Proc Natl Acad Sci U S A*96 :12156 –12161

Raja KBO, Latunde-Dada G, Peters TJ, McKie AT, Simpson RJ (2005): Role of interleukin-6 in hypoxic regulation of intestinal iron absorption. *Br J Haematol* 131:656–62.

Rao DS, Shih M, Mohini R (1993): Effect of serum parathyroid hormone and bone marrow fibrosis on the response to erythropoietin in uremia. *N Engl J Med* 328:171-175.

Rao M, Pereira BJG (2006): Prospective trials on anemia of chronic kidney disease: the trial to reduce cardiovascular events with Aranesp therapy. *Business Briefing: North Am Pharmacol* 97-103.

Rastogi A, Nissenson AR (2006): New approaches to the management of anemia of chronic kidney disease: beyond Epogen and Infed. *Kidney Int Suppl.* 104:S14-S16.

Rebouche CJ, Engel AG (1984): Kinetic compartmental analysis of carnitine metabolism in the human carnitine deficiency syndromes. *J Clin Invest* 73:857-867.

Rebouche CJ, Seim H (1998): Carnitine metabolism and its regulation in microorganisms and mammals. *Annu Rev Nutr* 18:39-61.

Rebouche CJ, Lombard KA, Chenard CA (1993): Renal adaptation to dietary carnitine in humans. *Am J Clin Nutr* 58:660-665.

Rees Rigdan SPA, Word G, et al (1990): Treatment of short stature by recombinant human growth hormone in children with renal disease. *Arch. Dis. Child.*; 65: 856-862.

Regidor DL, Kopple JD, Kovesdy CP, et al (2006): Associations between changes in hemoglobin and administered erythropoiesis-stimulating agent and survival in hemodialysis patients. *J Am Soc Nephrol.* 17(4):1181-1191.

Remuzzi G, Minetti L (2000): Hematologic consequences of renal failure. In: Brenner BM, Levine SA, eds *Brenner and Rector's The Kidney*. 6th ed. Philadelphia, PA: W.B. Saunders Company: 2079-2080.

Renoult E, Bachelet C, Krier-Coudert MJ, Diarrassouba A, Andre JL, Kessler M (2006): Recurrent anemia in kidney transplant recipients with parvovirus B19 infection. *Transplant Proc* 38:2321– 3.

Revicki DA, Brown RE, Feeny DH, et al (1995): Health-related quality of life associated with recombinant human erythropoietin therapy for predialysis chronic renal disease patients. *Am J Kidney Dis.* 25(4):548–554.

Ritz E, Laville M, Bilous RW et al (2007): Target level for hemoglobin correction in patients with diabetes and CKD: primary results of the Anemia Correction in Diabetes (ACORD) Study. *Am J Kidney Dis.* 49: 194–207.

Rivera VM, Gao GP, Grant RL, et al (2005): Long-term pharmacologically regulated expression of erythropoietin in primates following AAV-mediated gene transfer. *Blood* 105: 1424–30.

RizzaV, Lorefice R, Rizza N, Calabrese V (1992): Pharmacokinetics of L-carnitine in human subjects, in Ferrari R, Dimauro S, Sherwood G (eds): *Carnitine and Its Role in Medicine From Function to Therapy* New York, NY, Academic, pp 63-77

Robson M, Cote I, Abbs I, et al (2003): Thrombotic microangiopathy with sirolimus-based immunosuppression: Potentiation of calcineurin-inhibitor-induced endothelial damage? *Am J Transplant* 3:324-327.

Rocco MV, Paranandi L, Burrowes JD, et al (2002): Nutritional status in the HEMO study cohort at baseline. *Hemodialysis. Am J Kidney Dis* 39:245-256.

Rodgers M, Nixon J, Hempel S, Aho T, Kelly J, Neal D, et al (2006): Diagnostic tests and algorithms used in the investigation of haematuria: systematic reviews and economic evaluation. *Health Technol Assess.* 10 (18). [cited 20 Dec 2007]. Available from url: <http://www.ncchta.org/fullmono/mon1018.pdf>

Rodrigue ME, Moreau C, Lariviere R, Lebel M (2003): Relationship between eicosanoids and endothelin-1 in the pathogenesis of erythropoietin-induced hypertension in uremic rats. *J Cardiovasc Pharmacol* 41:388 –95.

Roob J. M, Khoschsorur G, Tiran A, Horina J. H, Holzer H, Winklhofer–Roob B. M (2000): Vitamin E attenuates oxidative stress induced by intravenous iron in patients on hemodialysis. *J. Am. Soc. Nephrol.* 11, 539–549.

Ruggenenti P, Gaspari F, Perna A, Remuzzi G (1998): Cross sectional longitudinal study of spot morning urine protein:creatinine ratio, 24 hour urine protein excretion rate, glomerular filtration rate, and end stage renal failure in chronic renal disease in patients without diabetes. *Br Med J* 316(7130):504-9

Sahajwalla CG, Helton ED, Purich EE, Hoppel CL, Cabana BE (1995): Comparison of L-carnitine pharmacokinetics with and without baseline correction following administration of single 20-mg/kg intravenous dose. *J Pharm Sci* 84:634-639.

Sakurauchi Y, Matsumoto Y, Shinzato T, et al (1998): Effects of L-carnitine supplementation on muscular symptoms in hemodialyzed patients. *Am J Kidney Dis.* 32:258-264.

Schaefer RM, Schaefer L (1995): The hypochromic red cell: A new parameter for monitoring of iron supplementation during rhEP0 therapy. *J Perinat Med.* 23:83-88.

Schellekens H (2003): Relationship between biopharmaceutical immunogenicity of epoetin alfa and pure red cell aplasia. *Curr Med Res Opin* 19: 433- 434.

Schellekens H (2004): Erythropoietic proteins and antibody-mediated pure red cell aplasia: a potential role for micelles. *Nephrol Dial Transplant* 19: 2422.

Schellekens H (2005): Follow-on biologics: challenges of the ‘next generation’. *Nephrol Dial Transplant* 20 (suppl 4): iv31–36.

Schofield CJ, Ratcliffe PJ (2004): Oxygen sensing by HIF hydroxylases. *Nat Rev Mol Cell Biol* 5: 343–54.

Schonholzer C, Keusch G, Nigg L, Robert D & Wauters JP (2004): High prevalence in Switzerland of pure red-cell aplasia due to anti-erythropoietin antibodies in chronic dialysis patients: report of five cases. *Nephrol Dial Transplant* 19: 2121–2125.

Semenza GL, Neffelt MK, Chi SM, Antonarakis SE (1991): Hypoxia-inducible nuclear factors bind to an enhancer element located 3' to the human erythropoietin gene. *Proc Natl Acad Sci USA* 88:5680-5684.

Sepandj F, Jindal K, West M, Hirsch D (1996): Economic appraisal of maintenance parenteral iron administration in treatment of anaemia in chronic haemodialysis patients. *Nephrol Dial Trurzsplunt*. 11:319-322.

Shen SH, Bastien L, Posner BI, Chretien P (1991): A protein-tyrosine phosphatase with sequence similarity to the SH2 domain of the protein-tyrosine kinases. *Nature* 352 :736 –739 [CrossRef][Medline]

Sieff CA, Emerson SG, Mufson A, Gesner TG, Nathan DG (1986): Dependence of highly enriched human bone marrow progenitors on hematopoietic growth factors and their response to recombinant erythropoietin. *J Clin Invest* 77:74-81.

Siems W, Carluccio F, Radenkovic S et al (2005): Oxidative stress in renal anemia of hemodialysis patients is mitigated by epoetin treatment. *Kidney Blood Press Res* 28: 295–301.

Silverberg D, Wexler D (2004): Anemia, the fifth major cardiovascular risk factor. *Transfus Med Hemother* 31:175–9.

Silverberg DS, Blum M, Peer G, et al (1996): Intravenous ferric saccharate as an iron supplement in dialysis patients. *Nephron*.72:413-417.

Silverberg DS, Iaina A, Peer G, et al (1996): Intravenous iron supplementation for the treatment of the anemia of moderate to severe chronic renal failure patients not receiving dialysis. *Am J Kidney Dis.* 27:234-238.

Silverberg DS, Wexler D, Blum M et al (2005): The interaction between heart failure, renal failure and anemia—the cardio-renal anemia syndrome. *Kidney Blood Press Res* 28: 41–47.

Silverberg JS, Barre PET, Prichard SS, Sniderman AD (1989): Impact of left ventricular hypertrophy on survival in end-stage renal disease. *Kidney Int.*36: 286-290.

Singh AK, Szczech L, Tang KL, et al, (2006) CHOIR Investigators. Correction of anemia with epoetin alfa in chronic kidney disease. *N Engl J Med.* 355(20):2085-2098.

Skibeli V, Nissen-Lie G & Torjesen P (2001): Sugar profiling proves that human serum erythropoietin differs from recombinant human erythropoietin. *Blood* 98: 3626–3634.

Smith, HW (1951): The Kidney. New York, NY: Oxford University Press, Inc; p.47-55.

Snanoudj R, Beaudreuil S, Arzouk N, Jacq D, Casadevall N, Charpentier B & Durrbach A (2004): Recovery from pure red cell aplasia caused by anti erythropoietin antibodies after kidney transplantation. *Am J Transplant* 4: 274–277. Clinical characteristics of EPO-associated PRCA 471

Snyder JJ, Foley RN, Gilbertson DT, Vonesh EF, Collins AJ (2004): Hemoglobin levels and erythropoietin doses in hemodialysis and peritoneal dialysis patients in the United States. *J Am Soc Nephrol* 15:174-9.

Spagnoli LG, Palmieri G, Mauriello A, et al (1990): Morphometric evidence of the trophic effect of L-carnitine on human skeletal muscle. *Nephron* 55:16-23.

Spinowitz BS, Kausz AT, Baptista J, et al (2008): Ferumoxytol for treating iron deficiency anemia in CKD. *J Am Soc Nephrol* 19:1599-1605.

Spinowitz BS, Schwenk MH, Jacobs PM, et al (2005): The safety and efficacy of ferumoxytol therapy in anemic chronic kidney disease patients. *Kidney Int* 68:1801-1807.

St Peter WL, Lambrecht LJ, Macres M (1996): Randomized cross-over study of adverse reactions and cost implications of intravenous push compared with infusion of iron dextran in hemodialysis patients. *Am J Kidney Dis.* 28:523-528.

Stead RB, Lambert J, Wessels D et al (2006): Evaluation of the safety and pharmacodynamics of Hematide, a novel erythropoietic agent, in a phase 1, double-blind, placebo-controlled, dose escalation study in healthy volunteers. *Blood* 108: 1830–1834.

Stenvinkel P, Heimbürger O, Paulter F, et al (1999): Strong association between malnutrition, inflammation and atherosclerosis in chronic renal failure. *Kidney Int* 55:1899-1911.

Stewart JH (1993): Kidney Disease due o Analgesics and Non steroidal Anti inflammatory Drugs. Blackwel Scientific Publications, London.

Stewart WK, Fleming LW, Shepherd AMM (1976): Haemoglobin and serum iron responses to periodic intravenous iron-dextran infusions during maintenance haemodialysis. *Nephron* 17: 12 I-130.

Stivelman J, Schulman G, Fosburg M, et al (1989): Kinetics and efficacy of deferoxamine in iron-overloaded hemodialysis patients. *Kidney Int.* 36:1125-1132.

Sun CH, Ward HJ, Paul WL, Koyle MA, Yanagawa N, Lee DB (1989): Serum erythropoietin levels after renal transplantation. *N Engl J Med* 321:151–7.

Swanson SJ, Ferbas J, Mayeux P & Casadevall N (2004): Evaluation of methods to detect and characterize antibodies against recombinant human erythropoietin. *Nephron Clin Pract* 96: c88–c95.

Sytkowski AJ, Lunn ED, Risinger MA, Davis KL (1999): An erythropoietin fusion protein comprised of identical repeating domains exhibits enhanced biological properties. *J Biol Chem* 274: 24773–78.

Takacs K, Du Roure C, Nabarro S, et al (2004): The regulated long-term delivery of therapeutic proteins by using antigen-specific B lymphocytes. *PNAS* 101: 16298–303.

Tan CC, Eckardt K-U, Ratcliff PJ (1992): Feedback modulation of renal and hepatic erythropoietin messenger RNA in response to graded anemia and hypoxia. *Am J Physiol* 263: F474–81.

Tapolyai M, Kadomatsu S, Perera-Chong M (2003): r.hu-erythropoietin (EPO) treatment of pre-ESRD patients slows the rate of progression of renal decline. *BMC Nephrol* 4: 3.

Tarng DC, Huang TP, Chen TW (1997): Mathematical approach for estimating iron needs in hemodialysis patients on erythropoietin therapy. *Am J Nephrol*.17: 158-164.

The Renal Association. UK Renal Registry Report (2006): bristol: UK Renal Registry; 2006. [cited 3 jan 2008]. Available from url: <http://www.renalreg.com/reports/renal-registry-reports/2006>

Thomas MC, Tsalamandris C, MacIsaac RJ, Jerums G (2006): The epidemiology of hemoglobin levels in patients with type 2 diabetes. *Am J Kidney Dis.*48(4):537–545.

Tobu M, Iqbal O, Fareed D, et al (2004): Erythropoietin-induced thrombosis as a result of increased inflammation and thrombin activatable fibrinolytic inhibitor. *Clin Appl Thromb Hemost* 10:225–32.

Urquilla P, Fong A, Oksanen S, et al (2004): Upregulation of endogenous EPO in healthy subjects by inhibition of HIF-PH. *J Am Soc Nephrol* 15: 546A.

Van Wyck DB (1989): Iron management during recombinant human erythropoietin therapy. *Am J Kidney Dis.* 14 (Suppl I): 9-13.

Van Wyck DB, Stivelman JC, Ruiz J, et al (1989): Iron status in patients receiving erythropoietin for dialysis-associated anemia. *Kidney Int.* 35:712-716.

Vanrenterghem Y (2004): Anaemia after renal transplantation *Nephrol Dial Transplant* 19 (Suppl. 5):V54–8.

Vanrenterghem Y, Barany P, Mann JF, et al (2002): for the European/Australian NESP 970200 study group. Randomized trial of darbepoetin alfa for treatment of renal anemia at a reduced dose frequency compared with rHuEPO in dialysis patients. *Kidney Int.* 62: 2167–75.

Vanrenterghem Y, Ponticelli C, Morales JM, et al (2003): Prevalence and management of anemia in renal transplant recipients: a European survey. *Am J Transplant* 3:835–45.

Vartia A, Asola MR, Tertti R, Kunelius P & Metsarinne KP (2004): Two haemodialysis patients with epoetin alfa induced pure red-cell aplasia recovered despite treatment with another epoetin preparation. *Nephrol Dial Transplant* 19: 1313–1316.

Vaziri ND (2001): Cardiovascular effects of erythropoietin and anemia correction. *Curr Opin Nephrol Hypertens* 10:633–7.

Venkatesan N, Yoshimitsu J, Ohashi Y, Ito Y, Sugioka N, Shibata N, Takada K (2006): Pharmacokinetic and pharmacodynamic studies following oral administration of erythropoietin mucoadhesive tablets to beagle dogs. *Int J Pharm* 310 :46 –52

Verhelst D, Rossert J, Casadevall N, Kruger A, Eckardt KU & Macdougall IC (2004): Treatment of erythropoietin induced pure red cell aplasia: a retrospective study. *Lancet* 363: 1768–1771.

Von Lindern M, Schmidt U & Beug H (2004): Control of erythropoiesis by erythropoietin and stem cell factor: a novel role for Bruton's tyrosine kinase. *Cell Cycle* 3.

Voulgari PV, Kolios G, Papadopoulos GK, Katsaraki A, Seferiadis K, Drosos AA (1999): Role of cytokines in the pathogenesis of anemia of chronic disease in rheumatoid arthritis. *Clin Immunol* 92: 153-60.

Vreugdenhil G, Lowenberg B, van Eijk HG, Swaak AJ (1990): Anaemia of chronic disease in rheumatoid arthritis. Raised serum interleukin-6 (IL-6) levels and effects of IL-6 and anti-IL-6 on in vitro erythropoiesis. *Rheumatol Int.* 10:127–30.

Walter T, Olivares M, Pizarro F, Munoz C (1997): Iron, anemia, and infection. *Nutr Rev.* 55:111-124.

Wanner C, Forstner-Wanner S, Rossle C, Furst P, Schollmeyer P, Horl WH (1987): Carnitine metabolism in patients with chronic renal failure: Effect of L-carnitine supplementation. *Kidney Int Suppl* 22: S132-S135.

Way JC, Lauder S, Brunkhorst B, Kong SM, Qi A, Webster G, Campbell I, McKenzie S, Lan Y, Marelli B, Nguyen LA, Degon S, Lo KM, Gillies SD (2005): Improvement of Fc-erythropoietin structure and pharmacokinetics by modification at a disulfide bond. *Protein Eng Des Sel* 18 :111 – 118

Wiecek A, Piecha G, Ignacy W, et al (2005): Pharmacological stabilization of HIF increases hemoglobin concentration in anemic patients with chronic kidney disease. *Nephrol Dial Transplant* 20 (suppl 5): v195.

Wingard RL, Parker RA, Ismail N, Hakim RM (1995): Efficacy of oral iron therapy in patients receiving recombinant human erythropoietin. *Am J Kidney Dis.* 25: 433-439.

Winkelmayer WC, Kewalramani R, Rutstein M, Gabardi S, Vonvisger T, Chandraker A (2004): Pharmacoepidemiology of anemia in kidney transplant recipients. *J Am Soc Nephrol* 15:1347–52.

Wizemann V, Schafer R, Kramer W (1993): Follow-up of cardiac changes induced by anemia compensation in normotensive hemodialysis patients with left ventricular hypertrophy. *Nephron* 64:202-206.

Woodburn K, Fan Q, Holmes CP, et al (2004): Preclinical evaluation of Hematide™, a novel erythropoietic receptor agonist for the treatment of anemia caused by kidney disease. *Blood* 104: 2904 (abstract).

Woodburn KW, Winslow S, Leuther KK, et al (2005): Hematide TM, a peptidic erythropoiesis stimulating agent that corrects anemia induced by partial nephrectomy and erythropoietin-specific antibodies in rats. Stockholm: European Haematology Association meeting.

Wrighton NC, Farrell FX, Chang R, et al (1996): Small peptides as potent mimetics of the protein hormone erythropoietin. *Science* 273: 458–64.

Wu G, Wadgymar A, Wong G et al (2004): A cross-sectional immunosurveillance study of anti-EPO antibody levels in CRF patients receiving epoetin alfa in 5 Ontario renal centers. *Am J Kidney Dis.* 44: 264–269.

Xia H. Ebben J; Ma JZ; Collins AJ (1999): Haematocrit level and hospitalizations risks in haemodialysis patients. *J Am Soc Nephrol* 10:1309-1316.

Yeh P, Landais D, Lemaitre M, Maury I, Crenne JY, Becquart J, Murry-Brelier A, Boucher F, Montay G, Fleer R, et al (1992): Design of yeast-secreted albumin derivatives for human therapy: Biological and antiviral properties of a serum albumin-CD4 genetic conjugate. *Proc Natl Acad Sci U S A* 89 :1904 –1908

Zachee P, Vermeylen J, Boogaerts MA (1994): Hematologic aspects of end-stage renal disease. *Ann Hematol.* 69:33-40.

Zehnder C. Zuber M; Sulzer M, et al (1992): Influence of long-term amelioration of anemia and blood pressure control on left ventricular hypertrophy in hemodialyzed patients. *Nephron*;61:21-25.

Zermati Y, Fichelson S, Valensi F, et al (2000): Transforming growth factor inhibits erythropoiesis by blocking proliferation and accelerating differentiation of erythroid progenitors. *Exp Hematol* 28 : 885–94.