d-dimer as amarker for dic in sick new born infants

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DIC is a syndrome where the physiologic balance of clotting and lysing the clot is disrupted. Clinically a patient may demonstrate gross hemorrhage or thrombosis or both, or may demonstrate only disordered coagulation parameters. Therefore, making a firm diagnosis of DIC has often been problematic because the routine laboratory tests address either thrombin generation or plasmin generation but not both. Laboratory evidence of DIC classically includes prolonged PTT and PT, thrombocytopenia, low level of fibrinogen and elevated fibrinogen degradation products.D-Dimer test offers a unique advantage over other laboratory tests for DIC because it addresses both dimensions of the process of disseminated intravascular coagulation. The aim of our work is to apply the D-Dimer test as a screening procedure for early detection of DIC in new born infants with neonatal sepsis who are naturally liable to suffer from this serious and often fatal complication. This will be coupled with assessment of the value of other more classical long standing laboratory tests as the platelet counts, PTT and FDPs in the early detection of DIC. Thirty newborn infant suffering from neonatal infection as assessed by the hematological scoring system cases were selected from the Neonatal Intensive Care Unite at Benha University Hospital for evaluation. None of these subjects showed clinical evidence of DIC in the form of bleeding tendency as ecchymosis, petichae, purpura or hematemsis. In addition ten normal newborns were selected to serve as a control group for comparison. All 40 newborns were subjected to the following laboratory tests :- A complete blood picture from which a sepsis score was implemented according to the hematological scoring system.- Partial thromboplastin time.- Fibrinogen degradation products.- D-Dimer latex agglutination test.Our results indicated that introduction of D-Dimer test is a valuable tool for diagnosing and confirming DIC especially in newborn infants. While FDP is a very sensitive test, it can yield some false positive results. This can be avoided by employing the D-Dimer test, which is more specific, to confirm the -diagnosis of DIC in cases with a positive FDP test. It should also be noted that the D Dimer test should not replace testing for FDPs due to the fact that inspite of its advantages, it is less sensitive andhence could rarely yield false negative results. We therefore agree with the recommendations of Carr et al.(1989) that the best approach for diagnosis of DIC is a combination of both tests, we should start by testing for FDPs and confirm by employing the D-Dimer test. PTT was shown to be inconclusive, and only marked prolongation should be considered as evidence of

DIC due to the fact that false prolongation is common in newborns (40% of the control subjects in our study). Platelet counts were also inconclusive since thrombocytopenia