Chromosomal breakage in patients with connective tissues diseases

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SCE analysis has come into use as a sensitive mean ofmonitoring DNA damage and genetic impairment. Chromosomalchanges and breakage were descried in many congenital andacquired diseases. Congenital diseases such as (xerodermapigmentation, fanconia anaemia, ataxia telangiectasia and Bloom's.syndrome), connective tissue diseases (SLE, RA, scleroderma andBehcet diseases).This study was done to identify frequency of SCE in SLE, RAand scleroderma patients and relation between SCE frequency andactivity of the diseases. The effects of using immunosuppressivedrugs on seE.Forty patients were suffering from connective tissue diseases(15 SLE, 15 RA, 10 scleroderma) and 10 normal subjects were takenas control group.All patients and control group were subjected to clinicalexamination, laboratory investigation and detection of the number ofSCE. The results were tabulated, graphed and statistically studied.The number of SCE statistically increased in SLE and also in RA. Inscleroderma, seE increased compared to control group.The number of SCE more in SLE than RA and scleroderma.There is correlation between number of SCE and diseases activitiesand age of patients. The use of immunosuppressive drugs increasenumber of SCE and SCE increased with cyclophosphamide morethan azathioprine and the least one is methotrexate.from this results we conclude that:1- The aetiology of increased number of SCE may be due to geneticfactors which may cause the connective tissue diseases and DNArepair defect.2- Activity of diseases Increase the number of SCE due to thepresence of antibodies which may cause damage to DNA.3- The age of the patients increases the number of SCE due toprolonged exposure to exogenous and endogenous mutant factors.4- Therapeutic alkylating agents and other cytotoxic drugs inducechromosomal damage and DNA repair defect and SCE increasedwith cyclophosphamide more than azathioprine and the least oneis methotraxate.