

POSTER SESSION II

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THE NATURAL HISTORY OF HAEMOPHILIC ARTHRITIS. J.E. Handelsman, A.L. Lurie, J.J. Rippey, R.R. Hill, M.B.E. Sweet, E.J.-M.A. Thonar. Departments of Orthopaedic Surgery, Haematology and Pathology, University of the Witwatersrand and Johannesburg Hospitals, Johannesburg, South Africa.

Surgical exploration of eight chronically afflicted haemophilic knee joints in patients aged 6 to 31 years, has revealed a pattern of progressive arthropathy.

Significant synovial changes occurred very early. Cellular overgrowth produced thickening, convolution and increased vascularity. Haemosiderin was deposited heavily in all cell layers. Fibrosis ultimately contracted the synovium.

Chronic inflammation produced epiphyseal overgrowth. Initially, articular cartilage changes resembled chondromalacia, but fissuring soon occurred and ultimately cartilage was totally lost over central weight-bearing areas and in the intercondylar region. Anomalies of matrix, chondrocyte aggregation and death, and subchondral round cell infiltration were features. Haemosiderin staining was sparse, occurring only in some chondrocytes and infiltrating cells.

Biochemical analysis of articular cartilage biopsies revealed a severe depletion of glycosaminoglycans. There was no biochemical evidence of a reaction of repair.

Articular cartilage damage occurred mainly between the ages of 6 and 10 years. This evidence suggests that early surgical synovectomy may arrest the process that produces progressive joint destruction.

RADIOIRON UPTAKE IN HEMOPHILIACS JOINTS BY ⁵⁹FE-RED CELLS RADIOACTIVITY SURFACE COUNTING. M.MORFINI, S.SISTEMI, P.BERNABEI, F.LOCCHI, P.ROSSI FERRINI, M.LEGNAIOLI and L.BONCOMPAGNI. Hematology and Biophisic Department, Florence, Italy.

Hemosiderin deposits in the synovial membrane has long been recognized in hemophilic patients and its possible relationship to the arthropathy is very attractive. ⁵⁹Fe-labelled autologous transferrin has been injected in 10 hemophiliacs and in 5 normal consentient volunteers. Red cells and plasma radioactivity, surface counts on knees, thighs and sacrum has been recorded every 1 hour for the first day and every 6 days over the course of ensuing 60 days. All counts were adjusted for background and decay. The surface counts rate in control group and on the thighs of hemophiliacs parallels the initial rapid clearance and the following incorporation of ⁵⁹Fe in circulating red cells. In hemophiliacs the surface counts rate on the knees instead shows a progressive increase of radioactivity and at 60th day it is raised to a mean +28,6% value in respect that at 10 min. In the control group this value is equal to -20%. The findings suggest that, beyond hemarthrosis, intra-articular accumulation of iron may take place from small subclinical hemorrhage or erythrocytes breakdown by the synovial membrane.