ATTEMPT TO ISOLATE A VIRUS FROM BIOPSY MATERIAL IN CASES OF RHEUMATOID ARTHRITIS

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It was thought possible that rheumatoid arthritis might be caused by a virus and that in the course of the illness this virus might exist latently in the cells of the synovial membrane or of the peri-articular connective tissue.

Biopsies were therefore taken from the knee joints of two patients with active rheumatoid arthritis and raised erythrocyte sedimentation rates. One patient was a woman aged 56, who had suffered from rheumatoid arthritis for 8 years. The second was a woman aged 25, who had suffered from rheumatoid arthritis for 3 years.

The pieces of tissue, which were mostly fat and fibrous tissue with a little synovial membrane, were chopped up and made into plasma-clot roller-tube cultures (Robbins, Weller, and Enders, 1952). The medium used contained 5 per cent. horse serum, 5 per cent. beef embryo extract, and 90 per cent. bovine amniotic fluid. After 2 days' incubation, fibroblasts started to grow out round the pieces and these gradually formed large sheets. The sheets of fibroblasts from Case 1 continued to grow and look healthy for 8 weeks and thereafter gradually disintegrated. The sheets of fibroblasts from Case 2 looked healthy for 5 weeks, when areas began to appear near some of the explants in which the cells became granular and then degenerated. For 3 weeks these areas became bigger and then cells grew in from the surrounding cell sheet and the holes disappeared. The cultures eventually disintegrated as with Case 1.

Although the degeneration in Case 2 was considered to be non-specific, medium taken from the Case 2 cultures at the times that the degenerated areas were appearing, and medium and cells harvested 11 weeks after the Case 2 cultures were set up, were kept at -70°C . and then inoculated into some of the cultures of Case 1 and into plasma-clot cultures of human embryo muscle and bone

and of monkey testis, all with good growths of fibroblasts. Medium and cells taken from the monkey testis cultures 3 and 6 weeks after inoculation were inoculated into cultures of Chang's human liver cells (Chang, 1954), and into plasma-clot cultures of human embryo muscle, bone, and lung. All these cultures appeared healthy for 2 to 3 weeks and then showed non-specific degeneration equally in the test and control cultures.

There was no evidence therefore that the tissues of these patients with rheumatoid arthritis contained a virus capable of causing degeneration of fibroblasts.

Summary

An unsuccessful attempt is reported to isolate a virus from biopsy knee joint tissues taken from two patients with rheumatoid arthritis.

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Tentative d'isoler un virus des prélèvements des cas d'arthrite rhumatoïdale

RÉSUMÉ

On rapporte une tentative sans succès d'isoler un virus des prélèvements des tissus de l'articulation du genou de deux malades atteints d'arthrite rhumatoïdale.

Tentativa de aislar un virus del material de biopsia en casos de artritis reumatoide

SUMARIO

Se relata una tentativa infructuosa de aislar un virus del material de biopsia extraido de las articulaciones de la rodilla de dos enfermos con artritis reumatoide.