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EOSINOPHILIC GRANULOMA

(Case Report)

By

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We present a patient with eosinophilic granuloma, in which a number of problems arouse sufficient interest to justify a short report.

CASE HISTORY

P. S., male, born in Baghdad in 1950. At the beginning of 1952 fell ill with rhinitis and conjunctivitis and was kept in bed for 5 weeks. Two weeks after getting up a weakness of the lower limbs appeared, which gradually disappeared within the next few weeks.

In May 1952 the parents noticed a small prominence of the dorsal spine. He was then accepted in another hospital: Mantoux was positive; x-ray pictures showed destruction of the body of D_8 with fuzzy margins and a paravertebral shadow. A diagnosis of tuberculosis was made, a plaster jacket applied and the child sent home. Four months later he was admitted to the same hospital. He was found to have a small gibbus in the lower dorsal region, without neurological changes. There were scars on both sides of the neck; E.S.R. was 20/38 and Mantoux strongly positive; x-ray pictures (Sept. 1952) showed considerable destruction with collapse of the bodies of D_8–D_9 and less marked changes in the body of D_3; there were no pulmonary changes. The child was nursed in a plaster bed and transferred to a T.B. sanatorium. His general condition continued to be satisfactory and all routine examinations were negative, except for the persistently high E.S.R.

In January 1953, he was first seen by us at a consultation at the

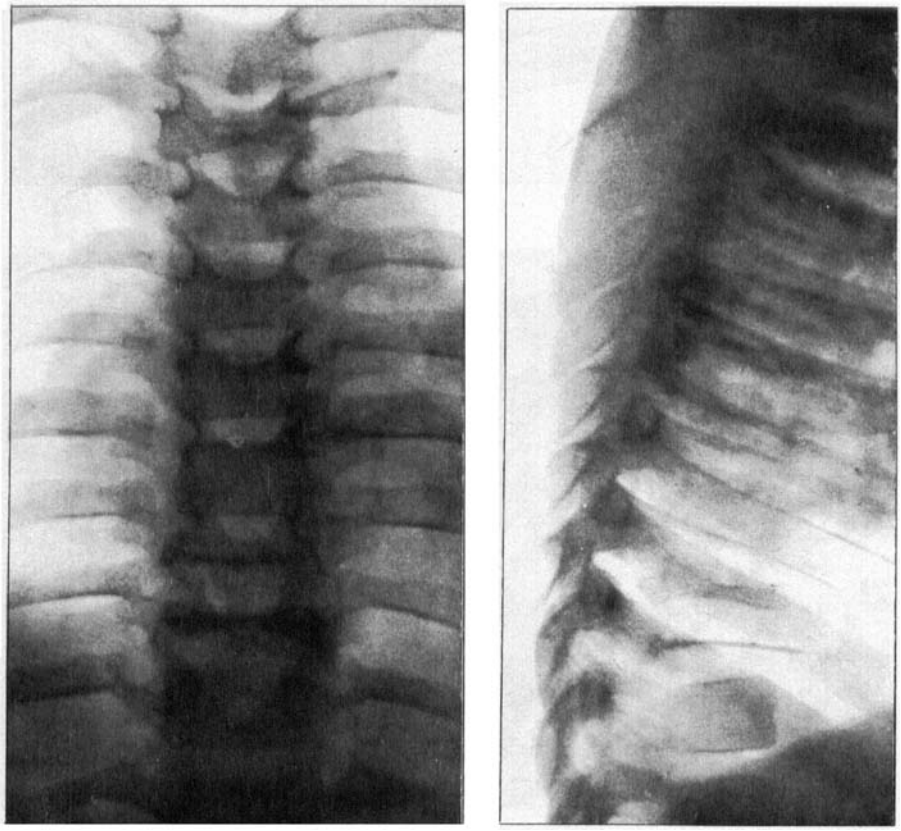
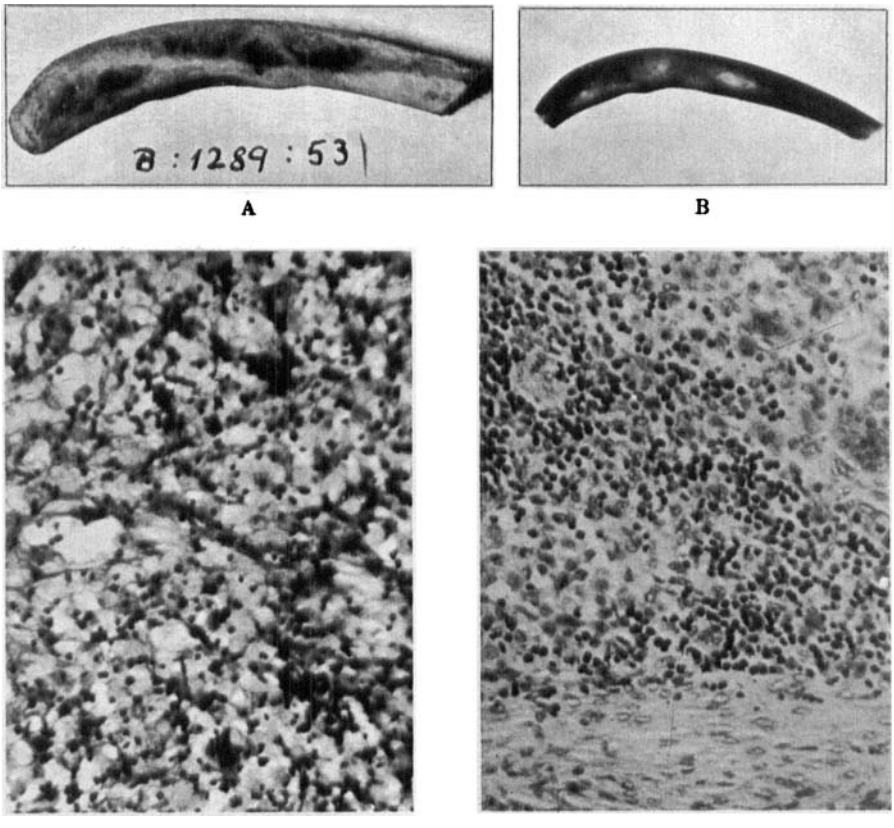


Fig. 1.
Aug. 1953: Flattening of the bodies of D_3, D_8, D_9.

sanatorium, when we found a small gibbus at the level of D_8–D_9. There was an oval swelling 2 cm long over the 4th rib anteriorly; x-rays of this rib showed a destructive lesion breaking through the periosteum posteriorly. We concluded that the spinal disease was quiescent but that it was advisable to excise the new focus.

In August 1953 the child was admitted to our hospital: The condition of the spine was very much the same as before except that the swelling of the rib had entirely disappeared; x-ray of the spine showed complete flattening of the body of D_9 and a similar picture in the bodies of D_8 and D_3. The spaces between the affected bodies were well preserved and there was no bony or soft tissue reaction (Fig. 1). The diagnosis of tuberculosis was accordingly dropped. X-ray of the chest showed oval, multilocular cystic changes in the 6th right rib posteriorly and in the



A B

C D

Fig. 2.

A) Biopsy specimen of the 5th rib showing a fusiform swelling with occasional small depressions.

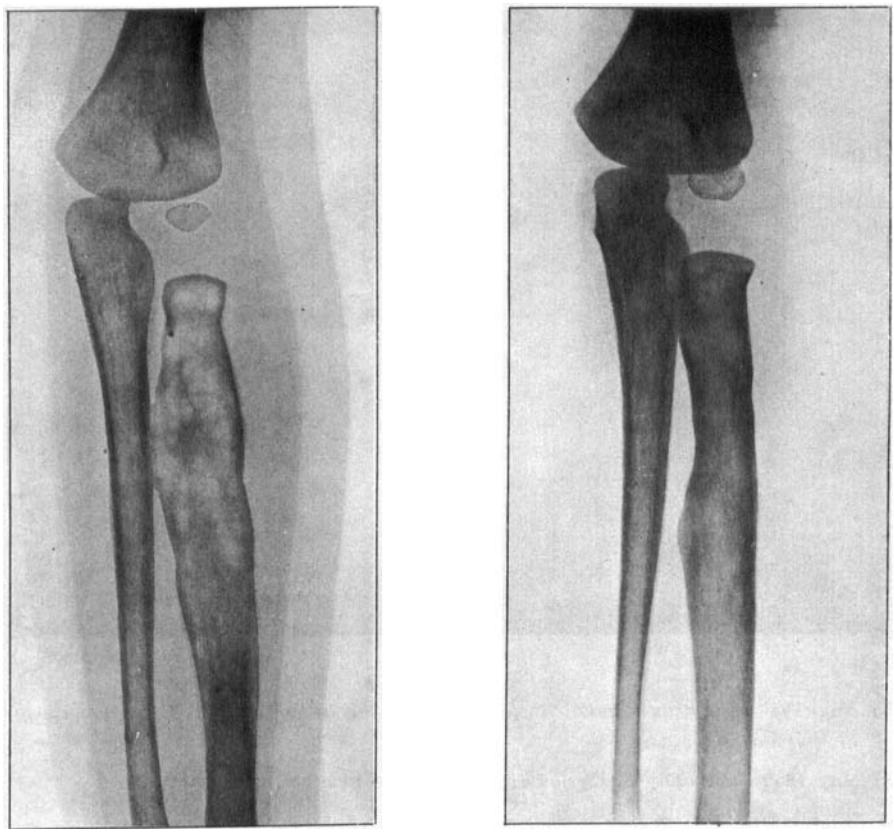
B) X-ray of same specimen showing multiple cystic lesions corresponding to the depressions noted in A.

C) Microscopical section of skull lesion, parietal area shows presence of foam cells.

D) Microscopical section of rib (2 A) showing infiltration with numerous eosinophilic leucocytes.

4th right rib anteriorly. There was an additional cyst in the right scapula below the glenoid fossa.

While undergoing the routine examinations a swelling appeared over the left parietal region; x-ray of the skull showed several osteolytic foci of varying sizes (Fig. 3). Similar changes were found in the upper ends of both femora and in the right ischium.



A B

Fig. 3.

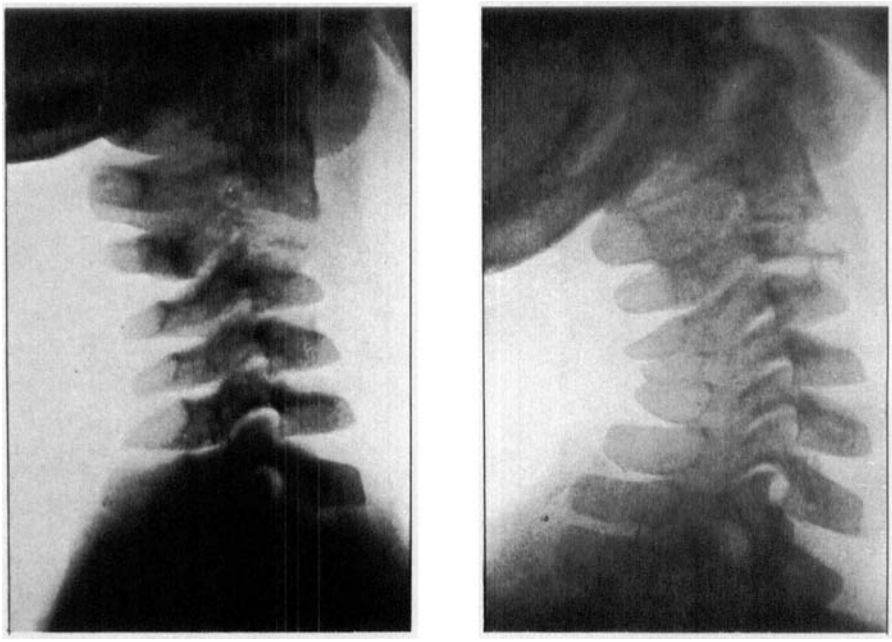
A) Feb. 1953: Multiple cystic lesions of left radius occupying the proximal ¾ of the shaft; shattering of the cortex and periosteal reaction which is so marked that it encloses the distal part of the shaft, thus giving the appearance of an involucrum.

B) Oct. 1954: Same region as in (A) showing restitution so complete that it is difficult to recognise signs of an earlier lesion.

We obviously had here a systematic bone disease, most likely one of the lipogranulomatoses.

Biopsies were done of the lesions in the skull and rib.

The skull lesion: Macroscopically—Destruction of the outer table by soft, grayish-yellow granulation tissue. Microscopically—The bone had a normal lamellar structure. In the outer table areas of lacunar erosion were seen. The bone marrow of the diploe was fibrotic. The tissue filling the bone defect consisted of a large number of giant cells, mono-



A B

Fig. 4.

A) Aug. 1954: Showing almost complete destruction of the body of C_3 with anterior inclination of C_{1-2}.

B) May 1955: The body of C_3 has appeared again in a collapsed state.

nuclear histiocytes and very numerous eosinophilic leucocytes (Fig. 2-D). Here and there were single strands of collagen fibres; there were occasional cells containing yellow pigment and small hemorrhagic zones.

The rib lesion: (Old focus)—Macroscopically—within the cortex there was a smooth fusiform swelling with occasional small depressions (Fig.2–A + B). Microscopically—the bone structure was normal and the bone marrow fibrotic. Within, there was a mass of soft tissue in the middle of which was an area of necrosis surrounded by a layer of loose connective tissue containing foam cells (Fig.2–C). Elsewhere, where repair had already taken place, there was an area of fibrosis surrounded by delicate new bone formation.

To sum up, the pathological features of the case were compatible with the diagnosis of eosinophilic granuloma. In the following years he was readmitted on a number of occasions with new foci accompanied by a subfebrile temperature and an increased E.S.R.

In August 1955 the patient was readmitted for the purpose of a full skeletal survey. The findings at this stage were as follows: skull—of the 6 foci which had appeared in three successive phases, only slight traces could now be seen; spine—C_3 and D_3 reduced to $\frac{2}{3}$ of normal size. Body of D_5 reduced to $\frac{2}{3}$ of normal size—this lesion was seen for the first time at this examination. D_8–D_9—picture unchanged (platyspondylia) in the body of L_4 and in one pedicle of L_5 the lesions had disappeared. Ribs—the foci in the 4th and 6th ribs on the right had disappeared. Right scapula—the lesion had disappeared. Right radius —there was anatomical restitution indistinguishable from normal (Fig. 3–B). Pelvis—the four foci in both acetabula and one each in the pubis and ischium had disappeared. Femora—on the right the lesion had healed with residual broadening of the upper shaft, on the left only the small cysts remained, with new bone formation under repair. In the mandible there was a recent lesion in the left body. In addition, there were two likely foci undergoing repair in the right humerus and calcaneus.

Of the 24 certain foci all except those in the vertebral column had disappeared without treatment.

DISCUSSION

1) In our patient, as with others, most of the foci manifested with swelling, tenderness and pain, and accompanied by fever and malaise, but there were also foci accidentally discovered which were completely silent. The acute signs disappeared rapidly within 3–4 weeks, while the roentgenological findings persisted for periods that varied from five to eighteen months, before bony reconstruction had taken place.

2) In the two biopsies taken, we see, in the same patient, at the same time, the histological features of all the phases of this condition (3).

3) From the diagnostic point of view, at first one may have been justified in thinking of tuberculosis, because of the history, gibbus, positive Mantoux, subfebrile temperature, increased E.S.R. and an x-ray film with blurring of the vertebral body, as well as the presence of a paravertebral shadow.

At a later period the x-ray showed a flattened vertebra, so-called Vertebra plana Calve D_9, and later of other vertebrae (1, 2, 4, 5).

SUMMARY

A boy with 24 foci of eosinophilic granuloma is presented. X-ray and pathological findings are presented and discussed.

RESUME

L'auteur présente un garçon ayant 24 foyers de granulome éosinophile. Les trouvailles radiographiques et pathologiques sont présentées et discutées.

ZUSAMMENFASSUNG

Ein Knabe mit 24 Herden von eosinophilem Granulom wird vorgestellt. Die röntgenologischen und pathologischen Befunde werden vorgelegt und besprochen.

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