CAPLAN'S SYNDROME IN A SLATE MINER

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THE ASSOCIATION OF LUNG LESIONS with rheumatoid arthritis has long been known. The radiological changes are different to those usually seen in progressive massive fibrositis and Caplan (1953) was able to foretell in 55 per cent of cases which would show evidence of arthritis. The case reported occurred in a slate quarry worker.

Case History. The patient (a slate quarry worker) aged 41 years was diagnosed as suffering from rheumatoid arthritis on 24 September 1960 and commenced treatment with aspirin (Nu-seals) and arthripax cream applied to the painful joints. At first the pain and stiffness was mainly in his feet, but later it became worse in the shoulders and wrists; he had a history of rheumatic pains going back to 1947. In March 1961 Bemaco (each containing chloroquine phos. B.P. 42.0 mg., acid acetylsalicyl. B.P. 162.0 mg., calcii carbonas B.P. 45.0 mg., acid ascorbic B.P. 25.0 mg., acid citric B.P. 15.0 mg.) two tablets three times a day replaced the aspirin, but although he remained at his work he did not improve and Tanderil, two tablets three times a day, was added to his previous medication on 4 April 1961.

On 28 April he was found to have a pharyngo-tonsillitis. His temperature then was 101° F. He had noticed generalized aches, septic spots on his abdomen and a sore throat for one week previous to this. He was confined to bed and stopped work on this date. Bemaco and tanderil were stopped and he was treated with 250 mg. terramycin four times daily. On 3 May a blood sample showed: Hb. 81 per cent, E.S.R. (corrected) 28 mm. per 1 hour, 5,265 neutrophils, 845 lymphocytes, 325 monocytes, 65 basophils, and 200,000 platelets per c.mm. On the same day the terramycin was stopped and he commenced daily intramuscular injections of 1,000,000 units of penicillin G. His rheumatic pains had remitted although he remained pyrexial and complained of malaise, sweating, headache and unproductive cough. On 8 May 1961, following a domiciliary consultation on 4 May, he was admitted to hospital as a P.U.O.

He was found to have a minimal periarticular swelling of the small joints of the hand with wasting of the interossei, a normal temperature, but slight inflammation of the fauces and palpable tonsillar glands.

The special investigations revealed the following picture:

X-ray. The chest showed a stage 3 silicosis with rounded opacities at the periphery of the lung fields. The cardiac outlines were within normal limits and so also was a radiograph of the right elbow. The right hand showed marginal decalcification of the interphalangeal joints due to atrophic arthritis of the rheumatoid type.

Blood count. Blood sedimentation rate 6 mm. fall in 1 hour. No correction. Haemoglobin 85 per cent. Red cell count 4,650,000. Colour index 0.91. White cell count 7,300. Differential: polymorphs 72 per cent, lymphocytes 19 per cent, monocytes 8 per cent, eosinophils 1 per cent. D.A.T., negative. R.A. Test, weak positive. C. Reactive Protein, positive 1 in 8. No L.E. cells seen. D.A. Test, negative. Z.N., negative.

A mid-stream urine specimen, a throat swab and serial sputa revealed no abnormality.

In view of these findings a diagnosis of Caplan's syndrome was made. Treat-

ment with prednisolone 2.5 mg. orally four times a day was started and continued after his discharge from hospital.

He was re-admitted to hospital on 14 July 1961, due to pain in the right elbow. A radiograph of this joint showed no change from the previous film, the result of the other tests were: Haemoglobin 95 per cent, corrected blood sedimentation rate now raised at 22 mm. in 1 hour, R.A. Test—positive, C. Reactive Protein—positive (1 in 16 dilution), D.A.T.—positive (1 in 512). Prednisolone was now decreased to 2.5 mg. three times a day, and he was given a course of short-wave diathermy, panadol was prescribed for pain, and gold (Myocrisin) 10 mg. injections weekly was also started.

The pain in his right elbow persisted until on 25 August 1961, 1 ml. hydrocortisone was injected intra-articularly giving marked relief. In September 1961 he noted that he was breathless on exertion, but this improved after two weeks. Gold injections were given monthly after May 1962, and prednisolone was reduced to 2.5 mg. twice a day. On 20 September 1962, his haemoglobin was 75 per cent and his corrected blood sedimentation rate was 12 mm. in 1 hour. In November 1962 gold injections were stopped due to a toxic skin reaction. By January 1963 he had been practically free of pain for the last four months and complained mainly of breathlessness on exertion and depression. His haemoglobin was 83 per cent and he was given oral iron, also Niamid, and told to continue with prednisolone. All treatment apart from an occasional Panadol tablet was stopped on 9 May 1963, corrected blood sedimentation rate then was 25. A chest x-ray showed no marked change in appearances over the year, but a little increased shadowing in the periphery of the right upper lobe probably due to simple fibrosis. On 22 July when he was discharged from the hospital clinic, he had been working daily since 1961 and had been without prednisolone for three months without deterioration.

Discussion

The case is reported as an illustration of the generalized nature of the rheumatic process. Although this syndrome has been described in many other industries since Caplan's (1953) original paper, and cases in slate mining have been reported by radiologists, it has not been described previously in association with slate miner's silicosis. In coal miners, the nodule contains necrotic collagen and dust surrounded by polymorphs and macrophages. The lack of development of the nodules over a period of three years is in agreement with Caplan's original observation in coal miners. Prednisolone and gold had no effect on the nodules in this case. The presentation of the case as a pyrexia of unknown origin with no leucocytosis, no evidence of pathogens, and no radiological evidence of a viral pneumonitis suggests that the pyrexia was caused by the activity of the rheumatic process, rather than the pulmonary lesions.

Summary

A case of Caplan's syndrome in association with a slate miner's silicosis is described for its intrinsic interest and as an illustration of the generalized nature of rheumatism.

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A CURIOUS TWIN ABORTION

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THE FOLLOWING CASE IS UNIQUE in my experience, and, as it raises several problems in genetics and embryonic development, I felt that it might be worth submitting for publication.

Case History. My patient Mrs B. is a housewife, 26 years of age. She is one of a family of eight. Her husband G. is 35, and one of a family of six. There is no history of twinning in either family, but B's aunt by marriage is a twin, and one of her daughters, a woman of about B's age, has recently given birth to twins. B. and G. have two children, both girls, aged 6 and 4 years respectively, and I attended Mrs B. throughout both pregnancies, labours and post-natal periods. They were normal in all respects, and there has never been any suggestion that her uterus might be bifid. After the birth of the baby in 1958 the couple decided that they did not want any more children, and have used an occlusive cap, with " Volpar " paste or gels consistently since. Supplies ran out in July, 1962, however, and an unprotected coitus took place on the 20th of that month. B. came to see me on 3 August, fearing that she might be pregnant. Her last menstrual loss had started on 29 June. She has a regular 28-day cycle, so the next period was due on 27 July, but this had not shown up. We had some discussion as to whether the coitus of 20 July was within the safe period or not. Presumably she had ovulated at about 13 July, i.e. 14 days after 29 June, so, as far as we could see at the time, she was probably " safe ". (Malleson and Blacker, 1950). To make certain, I gave her a course of "Amenorome" tablets as a pregnancy test. Each tablet contains ethinyloestradiol 0.01 mg. and ethisterone 10 mg. and my usual habit is to give four tablets daily for five days. In the absence of a pregnancy, withdrawal bleeding may be expected within the week following the end of the course. In addition, because of her anxiety I gave her 1 gr. " Spansule " of phenobarbitone each morning.

She came to see me again on 3 September. The pregnancy test had been positive—i.e. there had been no withdrawal bleeding, and, although they had not really wanted to increase their family, both B. and G. had accepted the fact philosophically. They had discarded their contraceptives and had continued intercourse as they had always done. There was at least one coitus during the family holiday, from 17 to 30 August, and perhaps two or three more from then until the events of 14 September—now that they knew the worst, they reverted to the vagueness about dates that is normal in this field of human relationships.