Heterotopic Ossification in Spinal Cord Injury

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Heterotopic Ossification around both knees and hips in case of spinal cord injury has been presented. The generalised and massive HO is quite uncommon after 3½ years of SCI.

Heterotopic Ossification following spinal cord injury or in other neurological disorders can occur but it is uncommon in Indian conditions. This Heterotopic Ossification can limit the range of joint motion and thus restricting the ambulation and wheelchair activities. This disorder is also infrequent at Royal Perth Rehabilitation Hospital, Western Australia which may be due to better control of infection particularly of urinary tract.[1]

Various drugs have been suggested to prevent this complication. Recently Disodium Editronate (EHDP) has been tried to prevent Heterotopic Ossification following spinal cord injury.[8] Stover has proposed that early treatment is essential since H. O. mostly develops within one to four months after spinal cord injury.

Heterotopic Ossification following total hip replacement is a frequently reported complication and for prevention, Diphosphonates, Indomethacin and Radiation therapy had been recommended.[3]

We observed a case of Heterotopic Ossification following spinal cord injury in a case which is being reported.

CASE REPORT

Mr. D. Y., 20 years male, a labourer had a fall from 70 feet height while working at the site in Middle East 3½ years before admission. He developed complete Paraplegia with bladder and bowel involvement following the injury. Immediately laminectomy with internal fixation was done. Post operatively no recovery occured, 2 years later, he developed sacral sore for which flap rotation was done. Three weeks later patient noticed swelling around right knee and 6 months later around left knee. Gradually passive movements at both knees and hips were limited. The patient was placed in prone position for sacral sore surgery for about 3 weeks wherein no movement at hips and knees were allowed. This restriction of movement might have precipitated the H. O. At present patient has 10 to 15° ROM (passive) at both knees and 30 to 35° passive ROM at both hips.

X-ray spine showed compression fracture of T12. The X-ray of both hips and knee showed massive H. O. (Fig. 1-3).

In his serum chemistry study, serum calcium was 8-9 mg%, Phosphorus 4.5 mg%, Alka-

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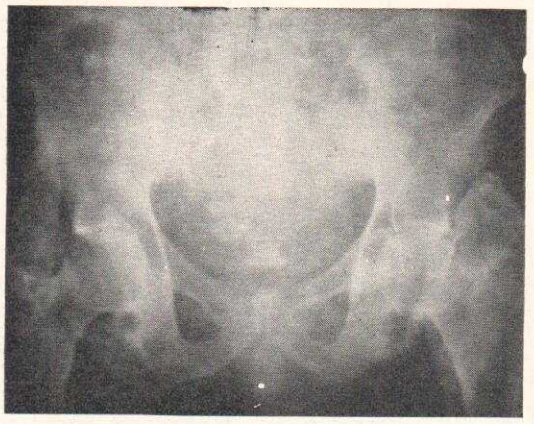

Fig. 1. Skiagram showing heterotopic ossification around both hip joints.

Fig. 2. Skiagram showing massive HO around knee joint.

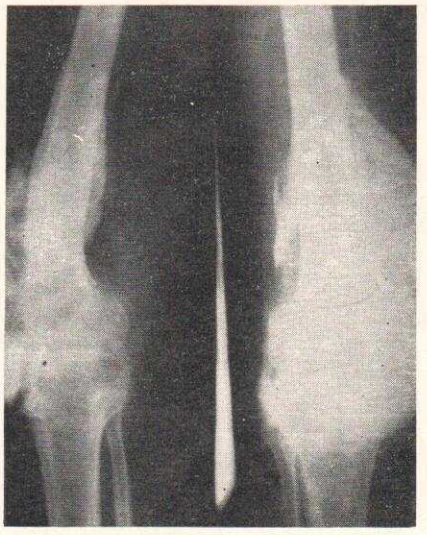

Fig. 3. Skiagram showing massive HO around knee joint.

line phosphatase 13 KA. units and Acid phosphatase 2 KA units.

DISCUSSION

The cause of Heterotopic bone formation is not known yet. The reported incidence of this disorder varies from 20% and 50% and affects the hips, knees and shoulders primarily in that order.[3,6,8,9] Predisposing or causative factors are also unknown. However it has been observed that devitalised tissue acts as an experimental inductor of Heterotopic Ossification.[4] Factors such as local trauma, infection, decubitous ulcer and vascular insufficiency in the presence of hypoxaemia may favour, the development of Heterotopic Ossification. Stover[8] has reported that in acutely injured patient

paraarticular ossification began mainly between one to four months post injury but can be found well beyond this period.[3] Diagnosis can be suspected when swelling in muscle about the susceptible joint is noted. The swelling is usually more firm than that associated with venous thrombi.[2] The serum alkaline phosphatase is usually elevated in early stages[5] and bone formation can be detected by Radio isotope scanning before X-ray finding is obtained.

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