Bilateral fracture of the transverse process of the atlas

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Brief Note

Bilateral Fracture of the Transverse Process of the Atlas

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Fractures involving the transverse processes of the atlas are extremely rare[3]. An extensive review of the literature revealed only three cases of unilateral fracture of the transverse process of the atlas[2], and no instances of bilateral fracture such as is reported here.

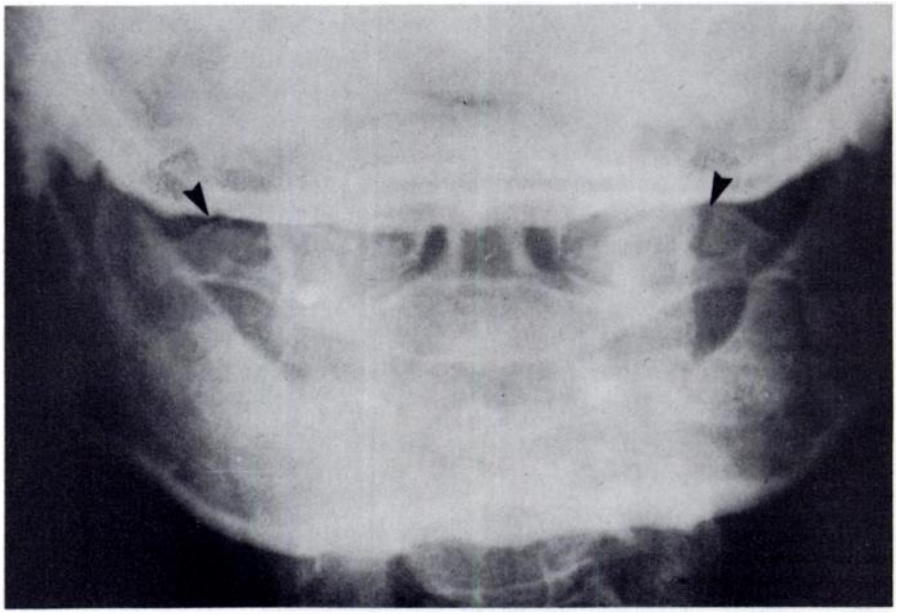

FIG. 1

The open-mouth odontoid radiograph. The arrow on the left indicates the non-displaced fracture and the arrow on the right indicates the displaced fracture.

Case Report

A fifty-year-old white woman had been beaten about the head. When she was seen by us, physical examination revealed swelling of the face and head as well as numerous contusions and lacerations. The cervical area was tender and palpation of the muscles about the spine revealed spasm, as attested by the patient's refusal to move her head. Palpation in the submastoid region revealed marked tenderness. The neurological examination was normal.

Radiographs of the cervical spine revealed fractures of both transverse processes of the atlas (Fig. 1). The patient was hospitalized and a Philadelphia collar was applied. Polytomography and computerized axial tomography added no new information. The diffuse tenderness and muscle spasm of the cervical area persisted, and palpation of the submastoid region continued to produce marked pain, but by four weeks after injury the patient was asymptomatic.

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The most significant finding on physical evaluation was marked bilateral tenderness immediately inferior to the mastoid processes. As pointed out by Abel, this injury may not be evident on routine radiographs of the cervical spine, and he suggested making basilar radiographs[1,2]. We suggest that patients with neck pain in whom routine radiographs of the cervical spine (including an open-mouth radiograph) are negative should specifically be examined for submastoid point tenderness. If tenderness is present, a basilar radiograph should be made.

The mechanism of injury appears to be forced lateral flexion resulting in a contralateral avulsion fracture[2]. The fracture is stable and may be treated accordingly.

References

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