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DYSPHAGIA AND DYSPNOEA AS COMPLICATIONS IN SPONDYLARTHROSIS ANKYLOPOETICA WITH CERVICAL OSTEOPHYTES

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CASE DESCRIPTION

Male, born 20 March 1898. Treated in 1936 at another hospital for an attack of rheumatoid arthritis which subsided without resultant symptoms. He was treated at the Orthopaedic Clinic in Lund in December 1965, when extirpation of cartilaginous bone formation, caused by osteochondromatosis in the right hip joint, was performed. He was slightly confused for two or three days postoperatively.

He returned in April 1967 for a McMurray osteotomy. This was performed with intubation under general anaesthesia. No complications associated with the intubation were recorded. The postoperative course was at first uneventful, but on the fifth day, he exhibited mental symptoms of an hallucinatory nature, similar to those seen after the aforementioned operation. The symptoms remained, but were mild. Three weeks postoperatively his temperature increased, accompanied by a cough and copious amount of phlegm in the air passages. X-ray showed no positive parenchymal change.

For the first time, he mentioned discomfort in the back of his neck. He occasionally had the feeling of a lump in his throat and difficulty in swallowing, mainly solid food. Both solids and liquids often entered the wrong passage. The patient also said that a few months previously he had had some difficulties in breathing and had a constricting feeling in his throat, which increased when lying down. Because of this, he was constantly compelled to clear his throat.

For the first time the cervical spine was X-rayed. Ankylosing spondylitis with osteophytes was diagnosed. Level with the disc between 3rd and 4th cervical vertebrae, one of these osteophytes was shown as a pronounced forward-directed projection, protruding almost 2 cm (Figure 1). X-ray of trachea and larynx showed that this osteophytic projection of the cervical vertebra was level with the epiglottis, where it caused a constriction (Figure 2).

The patient's general condition deteriorated postoperatively in the fourth week. He had increased amounts of sputum, became confused, had difficulty in breathing, and showed signs of considerable respiratory obstruction with marked respiratory stenosis heard over the trachea. On occasion, spasmodic jerks in the right



Figure 1. An enormous osteophyte can be seen level with the disc between C₃ and C₄.



Figure 2. The large osteophyte causes a constriction at the level of the epiglottis.

arm and nystagmus were also observed. Tracheotomy was performed, and after large amounts of purulent expectorate were evacuated, the airways were quite free and he became almost completely rational. A stomach tube was needed to overcome difficulty in swallowing. Because he could not manage without a tracheal cannula, operation was considered necessary. Chiselling off the cervical exostosis was performed. Postoperatively the course was smooth. The tracheal cannula was then removed and the difficulty in swallowing completely disappeared. X-ray 6 months after operation showed no signs of recurrence (Figure 3).

A supplementary X-ray examination of thoracic and lumbar spine and the sacroiliac joints showed changes typical of the appearance of spondylarthritis ankylopoetica.

Figure 3. Follow-up examination 6 months after chiselling away the osteophyte; no signs of recurrence.



DISCUSSION

We wished to report this case because we could find no mention in the literature of dysphagia and dyspnoea of this magnitude in connection with this condition.

In cervical spondylosis, hypertrophic changes of the vertebrae are common findings. These are most pronounced in regions with the greatest range of movement, probably due to the frequency of functional traumata there. These hypertrophic changes can be completely asymptomatic or in some cases cause dysphagia as well as laryngo-tracheal symptoms (Bauer 1953).

In a compilation of 1200 patients with dysphagia, Le Roux (1962) could not find a single case where cervical osteophytes were the cause of the complaint, but in a survey of the literature, a number of reports of dysphagia with this aetiology are found (for survey, see Hilding & Tachdjian 1960). Bauer (1953) thinks that the condition is by no means rare, and that many cases remain undiscovered. The dysphagia is usually very moderate; it can be a matter of temporary dysphagia with occasional episodes of discomfort, which are more pronounced when the patient is under nervous tension; but the symptoms can also be progressive (Iglauer 1938). Intolerance of solid food is noted as a

first sign of a narrow passage, and pain can occur on swallowing (Heck 1956). The patient often complains of a lump in his throat at first, and the real dysphagia appears gradually. The symptoms may progress to the point that the patient has difficulty in swallowing liquids and even saliva (Bauer 1953). In some cases, dysphagia has required gastrotomy (reported by Kertznor & Madden 1950).

Many consider that purely mechanical factors bring on the dysphagia (Kertznor & Madden 1950, Jacobson & Wicht 1954, Heck 1956). The absence of symptoms in many cases can be explained by the mobility of the oesophagus. This has been compared to a bowstring with two fixed points (cartilago cricoides and diaphragm); clinical investigations have shown that when an exostosis causes dysphagia it is localized close to the more immobile parts of the oesophagus (Iglauer 1938).

Much in the symptomatology, however, is believed to indicate that the osteophytes cannot be the only cause of dysphagia. Although the constriction of the oesophagus is said to develop gradually, the symptoms often appear suddenly (Perrone 1967). The difficulty in swallowing can vary considerably (serious cases, for instance, have improved spontaneously) at the same time as the osteophytes are permanent structures. The high frequency of cervical spondylosis with osteophytes without dysphagia also points in the same direction; namely, that besides the osteophytes, there must also be another contributing factor (Bauer 1953). The cervical osteophytes can be thought to produce a reaction in the surrounding tissues, in the form of a prevertebral oedema, resulting in acute dysphagia. This increase in the retropharyngeal tissues is believed by Facer (1967) to be a benign and self-limiting process. Gradually, however, the oesophagus can become attached to the surroundings (Bauer 1953) and the normal mobility is disturbed, making it difficult to swallow.

Messer & Sielaff (1960) supported the theory that dysphagia had a neurogenic background. Their roentgenological investigations point to a change in tonus in the oesophagus at cervical spondylosis as an expression of stretching. The observed oesophageal hypertonia is seen as a sign of a disturbed sympathetic innervation.

Concerning treatment, most cases can be managed by advice and sedatives and in some cases soft diet. Piquet (1951) recommends roentgen therapy and states he has seen very good results from this form of treatment. Surgical treatment should be applied where nothing else provides relief (Brooks & Ochsner 1964) or when an anterior cer-

vical osteophyte is so large that it causes continuous dysphagia (for survey, see Facer 1967).

In surveying the literature, it is conspicuous that the laryngo-tracheal symptoms are mentioned only at second hand, because, as far as can be judged, they have hardly been dominant. Slight hoarseness and weak voice have been noted (Bauer 1953). Sometimes the hoarseness has come on gradually and has been associated with non-productive cough (Jacobsen & Wicht 1954, Heck 1956). Hilding & Tachdjian (1960) point to the tendency of the patients to clear their throats frequently; one case with a feeling of obstruction at respiration is reported (Stephens & Janus 1954).

The case reported here is exceptional because of the patient's pronounced dyspnoea which rendered an operative intervention necessary. A large osteophyte of this level combined with the trauma of intubating a patient with cervical ankylosing spondylitis is supposed to have provoked the acute respiratory obstruction.

SUMMARY

A case with a large cervical osteophyte is reported, in which an intubation (hip operation in general anesthesia) provoked a serious dysphagia and respiratory obstruction. Chiselling off the osteophyte was necessary, resulting in complete relief of symptoms.

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