

Lesson of the Week

Unexplained acute backache in longstanding ankylosing spondylitis

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Ankylosing spondylitis is a chronic inflammatory arthritis that predominantly affects the axial skeleton and may result in complete bony fusion of the spine. Discovertebral destructive lesions, also called Andersson lesions¹ or spondylodiscitis,² are a well recognised complication of ankylosing spondylitis of unknown aetiology, which may cause recurrent backache in patients with longstanding disease, who are usually asymptomatic, and these lesions usually have a characteristic radiological appearance. We report on three patients with longstanding disease who developed the typical backache of a destructive spinal lesion in the absence of any characteristic radiological changes and in whom the lesions were detected by radionuclide skeletal scintigraphy.

Case reports

CASE 1

A 33 year old housewife, who had had ankylosing spondylitis for 20 years, complained of the sudden onset of stabbing, dorsal backache that was aggravated by exercise. Before the onset of pain she had been asymptomatic for two years. On examination she had a rigid spine with fixed dorsal kyphosis and localised spinal tenderness at the dorsolumbar junction. Routine x ray examination of the spine showed only the changes of longstanding ankylosing spondylitis, with complete bony fusion of the posterior elements throughout her spine. A radionuclide bone scan, however, showed grossly abnormal uptake of tracer at D11-12 (fig 1), and subsequent tomography showed a complete stress fracture of the posterior elements at this level, together with a small anterior area of discovertebral destruction (fig 2). She was immobilised in a spinal injuries bed until the acute back pain had resolved. Subsequent mobilisation in a moulded polypropylene thoracolumbar spinal support was uneventful, but there has been no apparent healing of the lesion over two years.

CASE 2

A 56 year old electrical fitter, who had a 36 year history of severe ankylosing spondylitis that affected his entire spine and both hips, complained of the sudden onset of crippling upper lumbar backache that was aggravated by exercise. He had been free of symptoms for 10 years. On examination he had a completely ankylosed spine, a fixed thoracic kyphosis, and severe but localised tenderness in the upper lumbar spine. Routine x ray examination of the spine showed a typical bamboo spine with apparent confluent anterior and posterior ankylosis. Skeletal scintigraphy showed one isolated level of abnormal uptake of L1-2, and subsequent tomography showed isolated non-fusion of the apophyseal joints at this level, with associated widespread discovertebral destructive changes (fig 3). A short

Patients with longstanding ankylosing spondylitis who develop untypical severe backache may have spinal lesions

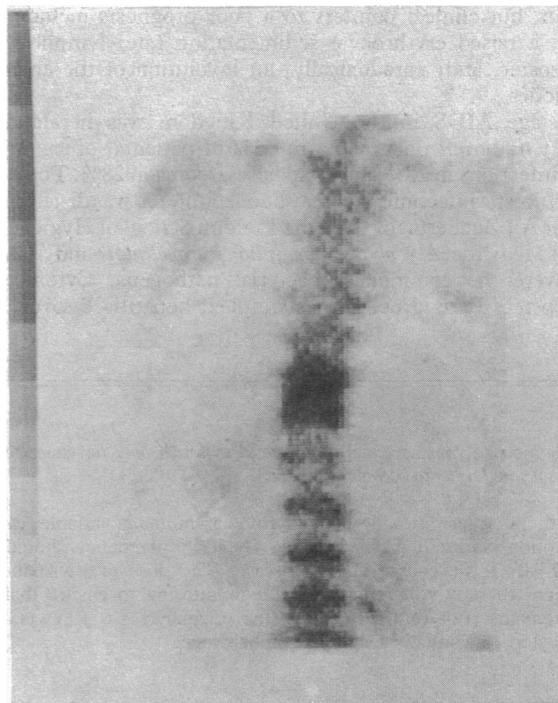


FIG 1—Scintigram of the skeleton of the patient in case 1, showing the characteristic pattern of increased tracer uptake at D11-12, suggesting a mobile segment.

period of bed rest produced complete resolution of his backache, which did not recur on mobilisation. Two months later he was free of pain but had developed a gibbus at L1. X ray films of his spine one year later showed healing by massive osteophytosis at this level.

CASE 3

A 55 year old unemployed man, who had had ankylosing spondylitis for 22 years, had complained for two years of severe lumbar backache that was aggravated by physiotherapy. He had not worked for four years. Examination showed gross, but not complete, restriction of thoracolumbar spinal movement but no thoracic kyphosis. Two places in his lower dorsal and lumbar spine were tender. X ray examination of the spine showed patchy but not complete anterior and posterior ankylosis. Skeletal scinti-

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graphy showed two isolated areas of abnormal uptake of tracer at D11-12 and L1-2, which subsequent tomography showed to be due to isolated non-fusion of apophyseal joints at these levels, with associated localised anterior discovertebral changes. A short period of bed rest produced complete resolution of his backache for the first time in two years. Subsequently he was mobilised in a rigid spinal brace and had no recurrence of symptoms. X ray films of his spine one year later showed progressive healing at the two sites by massive osteophytosis.

Discussion

Patients with longstanding ankylosing spondylitis in whom bony fusion of the spine has occurred usually do not complain of backache. Discovertebral destructive lesions may arise at any stage of the disease but classically occur in the later stages when they may cause a recurrence of backache, the symptoms of which differ



FIG 2—Lateral tomogram of the dorsolumbar spine of the patient in case 1, showing anterior discovertebral destruction and a stress fracture through the posterior elements of D11.

considerably from those of an uncomplicated exacerbation of ankylosing spondylitis. The pain produced by these lesions is sudden, sharp, and stabbing, occurs in an isolated spinal segment, and is exacerbated by exercise.² It is often difficult to relate directly the size of a destructive lesion with the severity of the backache which it apparently produces; some lesions produce severe incapacitating backache, whereas others of similar size remain completely asymptomatic for several years.³ All of our patients complained of severe localised backache with characteristics that were identical to those of a destructive lesion, yet none had convincing evidence of such a lesion on routine x ray examinations of their dorsolumbar spines. Thus at least one was treated with further physiotherapy—the accepted treatment for an acute exacerbation of ankylosing

spondylitis—which actually caused a deterioration in his symptoms.

In longstanding ankylosing spondylitis the skeletal scintigram should be featureless, lacking even the normal segmental spinal architecture and reflecting the widespread ankylosis that has occurred.^{4,5} Yet each of our patients had at least one isolated level of abnormal spinal uptake of radionuclide of identical appearance—a band extending across the entire width of the vertebral column and at a site corresponding to the area of their spinal pain. Such an appearance has been described for sterile discitis,⁵ pseudarthrosis,⁶ and traumatic pseudarthrosis.⁷ All these conditions predispose to



FIG 3—Lateral tomogram of the lumbar spine of the patient in case 2, showing destructive changes at L1-2 and unfused apophyseal joints at the same level.

segmental spinal instability, which was shown by tomography in all our patients. Other conditions such as tuberculosis and bacterial infections of the spine may also produce focal abnormalities of similar appearance on a skeletal scintigram. Under such circumstances the typical radiological changes of the underlying condition usually appear rapidly, and there often are signs of the underlying infection affecting other systems. None of our patients was ever systemically unwell, and at no time was a primary infective cause for the lesions considered. If, however, extensive lesions of discovertebral destruction are observed on routine spinal x ray films of any patient with ankylosing spondylitis, an infective cause should always be excluded by appropriate investigations.

None of our patients developed extensive discovertebral destruction that suggested a pseudarthrosis,⁸ yet all had clear evidence on tomography of isolated segmental spinal instability at the site indicated by scintigraphy that had been produced either by a stress fracture of the posterior elements or by isolated non-fusion of the apophyseal joints. Anterior interbody destructive changes have been described after both of these causes of segmental instability,^{9,10} and perhaps we have prevented the development of such extensive destructive changes by prompt and prolonged immobilisation of the affected segments. Healing has occurred in two of our patients by processes that are identical to those described for extensive discovertebral destructive lesions.¹¹ The lesion that has failed to heal is

the posterior element stress fracture, which often fails to heal even after a prolonged period.⁹ With immobilisation, however, the lesion in this case does not seem to have progressed over two years, and we have therefore not yet taken a biopsy specimen.

The clinical, radiological, and scintigraphic findings in these patients support the concept of the "mobile segment" in longstanding ankylosing spondylitis, which produces a characteristic symptom complex of localised pain exacerbated by exercise. The continuous movement at this level produces the extensive destructive changes that have been referred to as spondylodiscitis or pseudarthrosis.^{2,8} If patients complain of this characteristic pain a mobile segment should be sought by scintigraphy and tomography so that the correct treatment is offered and further severe backache prevented.

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References

- Andersson O. Röntgenbildern vid spondylarthritis ankylopoetica. *Nord Med* 1937;14:2000.
- Cawley MID, Chalmers TM, Kellgren JH, Ball J. Destructive lesions of vertebral bodies in ankylosing spondylitis. *Ann Rheum Dis* 1972;41:345-58.
- Little H, Urowitz MB, Smythe HA, Rosen PA. Asymptomatic spondylodiscitis; an unusual feature of ankylosing spondylitis. *Arthritis Rheum* 1974;17:487-93.
- Galasko CSB. The arthritides. In: Galasko CSB, Weber DA, eds. *Radionuclide scintigraphy in orthopaedics*. Edinburgh: Churchill Livingstone, 1984:111-33.
- Lentle BC, Russell AS, Percy JS, Jackson FI. Scintigraphic findings in ankylosing spondylitis. *J Nucl Med* 1977;18:524-8.
- Park WM, Spencer DG, McCall IW, et al. The detection of spinal pseudarthrosis in ankylosing spondylitis. *Br J Radiol* 1981;54:467-72.
- Resnick D, Williamson S, Alazraki N. Focal spinal abnormalities in ankylosing spondylitis: a clue to the presence of fracture or pseudarthrosis. *Clin Mucl Med* 1981;6:213-7.
- Pastershank SP, Resnick D. Pseudarthrosis in ankylosing spondylitis. *J Can Assoc Radiol* 1980;31:234-5.
- Yau APMC, Chan RNW. Stress fracture of the fused lumbo-sacral spine in ankylosing spondylitis: a report of 3 cases. *J Bone Joint Surg* 1974;56B:681-7.
- Rivelis M, Freiburger RH. Vertebral destruction at unfused segments in late ankylosing spondylitis. *Radiology* 1969;93:251-6.
- Dihlmann W, Dellling G. Disco-vertebral destructive lesions (so-called Andersson lesions) associated with ankylosing spondylitis. *Skeletal Radiol* 1978;3:10-6.

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Philosophical Medical Ethics

Confidentiality

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The principle of medical confidentiality—that doctors must keep their patients' secrets—is one of the most venerable moral obligations of medical ethics. The Hippocratic Oath enjoins: "Whatever, in connection with my professional practice, or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret."¹ The obligation is widely regarded as being exceedingly strict. Indeed, according to the World Medical Association's International Code of Medical Ethics it is an absolute requirement, even after the patient's death²: an absolutist claim echoed in a leading article in the *BMJ*.³ (Ironically, two years later the General Medical Council (GMC) officially indicated to the editor of the *BMJ* that an obituary he had published of a famous soldier had transgressed medical confidentiality).⁴ In France so strict is the obligation of medical confidentiality that it is apparently enshrined in law as an absolute medical privilege which no one, including the patient, is allowed to override, even when to do so would be in the patient's interest.⁵

In practice, on the other hand, doctors do not seem to regard confidentiality as an absolute requirement, as many relatives of seriously ill patients could testify. The BMA handbook of medical ethics lists five types of exception to the need to maintain medical confidentiality⁶ and the GMC lists eight.⁷ Recent British governments certainly do not regard medical confidentiality as absolute: one of Mrs Thatcher's governments tried (unsuccessfully, largely as a result of opposition from the BMA) to give statutory licence to the police to search medical files,⁸ and the BMA is still unhappy about the inadequate protection afforded to health records by the Data

Protection Act 1984 and has cosponsored an interprofessional working group partly to tighten up the Act's provisions for medical confidentiality.⁹ The campaign led by Mrs Gillick—legally successful though under appeal to the House of Lords at the time of writing—clearly believes that doctors are excessively concerned with confidentiality when it comes to prescribing oral contraceptives to girls under 16¹⁰; its members would presumably approve of the famous (or infamous) action of Dr Browne, who broke medical confidentiality and told his 16 year old patient's parents that she was taking the pill¹¹ (he was not censured by the GMC). Doctors express concern about both the threats to¹² and the relaxing standards of^{13,14} the medical profession's principle of confidentiality, and one doctor has advocated that patients ought to keep their own records to preserve their confidentiality.¹⁵ So was the American doctor right who called medical confidentiality "a decrepit concept"?¹⁶ How can any sense be made of what may appear to be a chaotic jumble of attitudes?

What is "medical confidentiality"?

Some preliminary (and sketchy) analysis of the issues may be useful. What is meant by "medical confidentiality"? Is it morally valuable in itself or, if not, why is it morally important? Is it an absolute requirement? How does it relate to other obligations?

Essentially medical confidentiality is the respecting of other people's secrets (in the sense of information they do not wish to have further disclosed without their permission). There is obviously no general moral duty to respect other people's secrets (imagine a thief whom one had surprised saying "Shh, don't tell the police, it's a secret"), yet equally obviously doctors (and, of course, other groups) voluntarily undertake some general commitment to keep their patients' or clients' secrets (imagine the same thief talking about his activities in the course of a medical consultation). It seems

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