Examine the patient first, then look at the X-ray

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DISCUSSION

'Examine the patient first, then look at the X-ray' is an adage handed down to most medical students at an early stage in their clinical training. However, despite this useful maxim, most radiologists rarely have the benefit of examining a patient before reporting an X-ray appearance. In this respect, radiologists are arguably at a relative disadvantage compared with most other clinicians.

This case underlines the need to interpret X-rays with the full benefit of satisfactory clinical details, and highlights how easily an X-ray can be misinterpreted: an unusual patient may provide an unusual X-ray. In these particular circumstances, the original radiologist may not have been given sufficient clinical information on the request form.

Most intravesical foreign bodies are placed urethrally for sexual reasons (Van Ophoven and deKernion, 2000). Although there have been a few reported cases of intravesical thermometers described before, the authors believe this is the first paper to highlight the potential danger that might arise from misinterpreting intravesical foreign bodies as being artefactual.

There are no current data on the possible toxicity that may arise from intravesical thermometers. However, as mercury vapour tends to be more toxic than metallic mercury (which is only 1% systemically absorbed, when taken orally) (Weatherall et al, 1995) the risks to patient or staff would arguably be only significant if the thermometer had broken while 'hibernating' in the bladder, or if it had broken during its retrieval.

The authors do not recommend use of this technique for measuring core temperatures. HM

Figure 1. Ultrasound scan of bladder.

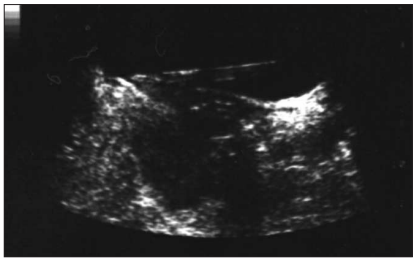


Figure 2. Plain abdominal X-ray.

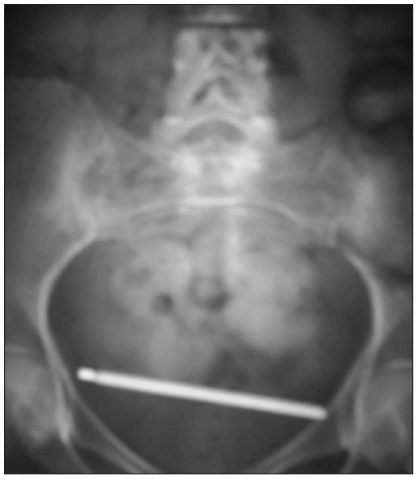
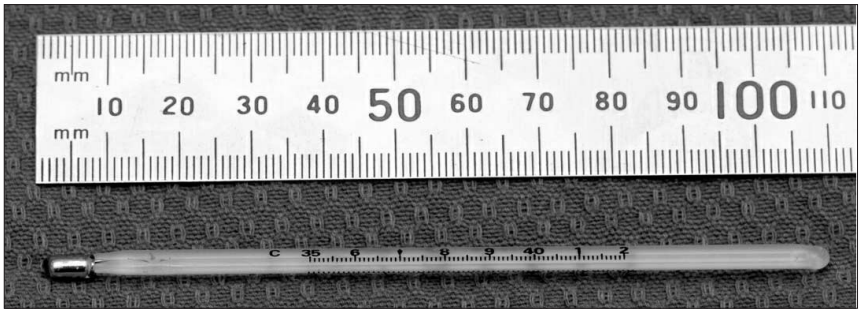


Figure 3. Intact thermometer, after vigorous cleaning.



CASE REPORT

A 56-year-old woman was admitted acutely with sepsis of unknown origin. She described a 2-day history of offensive-smelling urine, rigors and lower abdominal pain. Her axillary temperature was 39.6°C, her white cell count was 24.2x10^9/litre and a midstream urine analysis showed a large numbers of white cells. She was treated with intravenous antibiotics and subsequent urine culture grew *Escherichia coli* and *Proteus* species.

An abdominal ultrasound scan revealed a highly echogenic linear structure within the bladder (*Figure 1*). Plain abdominal radiography indicated that this was a clinical thermometer (*Figure 2*).

Once clinically stable, she proceeded to cystoscopy under general anaesthetic, with endoscopic extraction of an intact but highly-encrusted mercury thermometer (*Figure 3*). Her subsequent recovery was uneventful.

The patient adamantly denied placing the thermometer within her own bladder. Instead, she believed that someone had mistaken her urethra for her anus when measuring her rectal temperature several years earlier. However, the most interesting feature of this case is not the X-ray appearance itself. Most notably, it was discovered that, while living elsewhere, her previous GP had organized a plain abdominal X-ray 1 year beforehand to investigate her recurrent urinary tract infections. This film was reported as being normal, but the following comment was made:

> 'The patient appears to have been lying on a thermometer when the X-ray was taken. This is an artefact.'

No further tests were ordered at that time as her symptoms subsequently settled.

Van Ophoven A, deKernion JB (2000) Clinical management of foreign bodies of the genitourinary tract. *J Urol* **164**(2): 274–87

Weatherall DJ, Ledingham GG, Warrell DA, eds (1995) *Oxford Textbook of Medicine*. Vol I. 3rd edn. Oxford University Press, Oxford: 1111–12

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