with consequent prosthesis-patient mismatch; in fact, the prosthetic aortic valve index at operation, calculated retrospectively, was 1.5 cm²/m². Significant transaortic systolic gradients have been reported postoperatively with small-sized Hancock xenografts. In the present case stenosis was made worse by fibrous tissue overgrowth on the cusps, which is observed mainly on the mitral porcine prostheses, and by central impingement of the valve prongs. The latter has recently been recognized as a cause of hemolysis and thrombus formation, both of which were absent in our case. Currently, concern exists that the standard orifice Hancock valve may not be a suitable substitute for the native aortic valve in the presence of a narrowed anulus if surgical enlargement of the latter is not performed. The case herein reported provides evidence that the already unfavorable ratio of internal to external diameter of small-sized Hancock valves may be worsened, even in the absence of structural changes of the cusps, by fibrous tissue overgrowth and inward bending of the struts, an association previously unreported.

REFERENCES

Radiographic pseudofracture of the Medtronic bipolar polyurethane pacing lead


The radiographic appearance of fractures in permanent cardiac pacemaker system leads has been well described in previous articles. However, during the present era cardiac pacing is experiencing a plethora of technological innovations. One of these innovations has been the transvenous polyurethane endocardial lead. We present here a graphic demonstration of the normal appearance of the Medtronic 6972 bipolar polyurethane lead and how its appearance on chest x-ray examination may simulate lead fracture (Figs. 1 and 2).

The construction of the lead is of a coaxial design, and at the bifurcation of the outer coil from the inner coil the outer coil is offset from the inner coil (Figs. 3 and 4). It is at this offset area that the wire can appear discontinuous, thus simulating lead fracture on a standard radiographic view. In fact, this is the normal appearance. We present these data to familiarize physicians working with pacemakers and pacemaker radiography about this “pseudofracture” appearance. It is important to recognize this feature in order to avoid an unnecessary lead explantation.
Fig. 2. Posteroanterior chest radiograph from another patient, showing the 69/2 lead. The system performed normally, ruling out lead fracture. See legend to Fig. 1.

Fig. 3. Radiograph of the 69/2 lead alone. Note area of discontinuity (arrowhead).

Fig. 4. Photograph of the 6972 lead. Note area where the outer coil (OC) crosses over to form a bifurcation. IC = inner coil.

REFERENCES