Indigenized short striped nitinol wire for esophageal stricture dilatation

Esophageal strictures may require multiple sessions of dilatation with plastic bougies. The dilatation is performed using a 200-cm stainless steel wire with spring tip or with 400-cm Zebra / Jag wire (Microvasive, Boston Scientific, USA) under fluoroscopy.

The advantage of the stainless steel wire is its good radio-opacity; it has the drawback of short life due to frequent kinking during the procedure. The 400-cm-long wire 0.035" diameter Zebra / Jag wire is commonly used in therapeutic ERCP procedures. The tip of these wires curls after multiple uses. The wire has the disadvantage of being expensive and very long for repeated exchange of multiple dilators during a session of dilatation. These wires have the advantage of good radio-opacity and, being nitinol wires, do not kink easily.

For bougie dilatation of esophageal strictures we used malfunctioning 400-cm Zebra / Jag wires, discarded because of their inability to negotiate across strictures during ERCP because of changed curvature and shape of the tip. We cut the stiff end to reduce the wire to 200 cm length. The curled terminal 5-cm soft end of the wire is cut. Both the ends of the wire are glued by applying adhesive. Procedures were done after proper sterilization. Informed consent was taken from all the patients. The details of the wire used were informed to all the patients.

Fifty-four patients (mean age 25 years, range 5-70; 40 male) underwent dilatation with these wires. The etiology of esophageal stricture was corrosive ingestion (35 patients), gastro-esophageal reflux (10) and carcinoma esophagus (9).

We have used one short Zebra and one short Jag wire for 150 sessions of esophageal dilatation with plastic bougies under fluoroscopic guidance. We found the wire better than the conventional stainless steel metal spring-tip guidewire. The stripes of the wire are helpful for bougie dilatation without fluoroscopic assistance as even slight movement of the wire can be avoided during rail-rodging of the bougie over the dilator. No complication was encountered.

Thus, a 200-cm Zebra / Jag wire with a 5-cm soft tip has excellent radio-opacity and easy maneuverability during esophageal stricture dilatation.

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