

Ecological impact of endoscopic dilatation using the bougie cap device: a low-tech innovation to reduce waste by 99%



Endoscopic dilatation for esophageal stenosis is an invasive and repetitive procedure. Different modalities exist (balloon dilatation, bougie dilatation) with similar efficacy [1], but their different ecological impact should be considered during endoscopic procedures [2,3]. We report the technique of dilatation using the bougie cap (Ovesco, Tuebingen) that could have an impact on reducing waste during this kind of procedure.

A 20-year-old woman with a caustic esophageal stenosis was referred to our center for a first dilatation. The stenosis was located in the middle esophagus, measured 2 cm, and was not passable by the endoscope. From the available methods, we chose to use the bougie cap given its lowest weight of waste (3 grams in total with package) compared with the bal-

loon dilatation strategy using a balloon and manometer (483 grams, ► **Fig. 1**). After inserting the cap on the extremity of the endoscope, the latter was pushed through the stenosis provoking mucosal linear damage and a widening of the lumen (► **Video 1**). No immediate complication was noticed.

From an ecological perspective, the use of this technique could significantly reduce our plastic waste (99% less). Bougie dilatation is an alternative because it is reusable, however disinfection can be sub-optimal raising hygiene issues [4]. Studies are urgently needed to confirm the medico-economical and environmental advantages while preserving the efficacy and safety profile of dilatation strategies.

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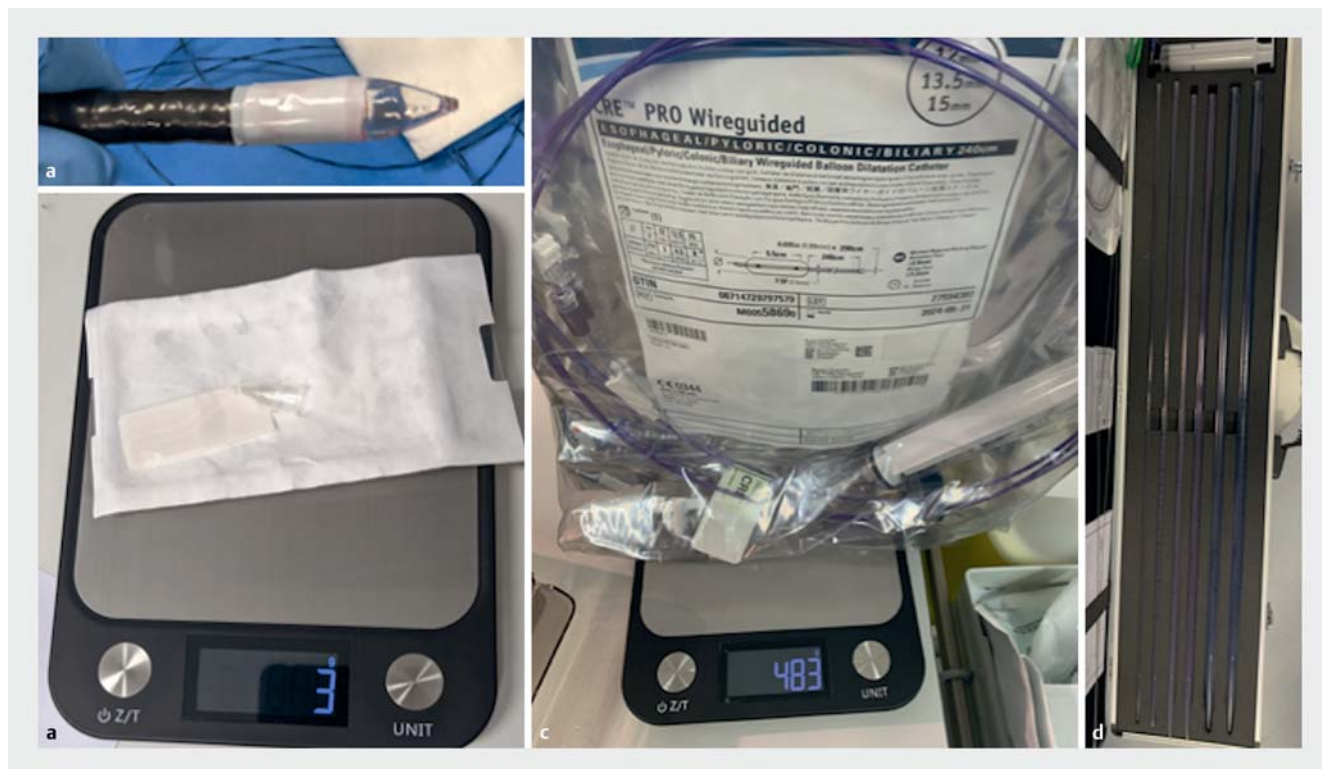
Competing interests

Clara Yzet received consultant and lecture fees from Abbvie, Takeda, Galapagos, Janssen and Ferring.

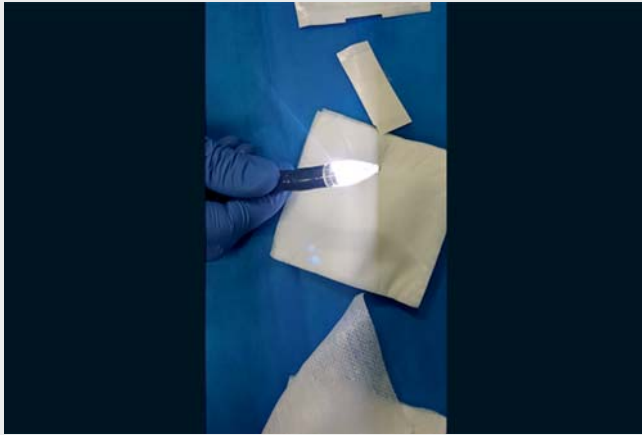
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► **Fig. 1** Strategies of dilatation with the available devices and weight of waste. **a** Bougie cap device. **b** Weight of the bougie cap with its package. **c** Balloon dilation kit with balloon and manometer and its weight. **d** Conventional bougies.



Video 1 Ecological impact of endoscopic dilatation using the bougie cap device: a low-tech innovation to reduce waste by 99%.

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