

## Mortality rate after pneumatic dilatation for achalasia

With great interest we have read the article 'Outcomes of pneumatic dilatation and Heller's myotomy for achalasia in England between 2005 and 2016' of Harvey *et al.*<sup>1</sup> In this retrospective study, the efficacy and complication rate were compared between pneumatic dilatation (PD) and Heller's myotomy (HM) over 10 years. The Hospital Episode Statistics (HES) database of England was used to include achalasia patients treated with PD or HM. Subjects were identified by the presence of an International Classification of Diseases (ICD-10) code for diagnosis and treatment. With the large sample size (n = 6938) the authors should be congratulated for their efforts.

In this study, the mortality rate 30 days after PD was surprisingly high with a staggering 1.9%.<sup>1</sup> This is contradictory to previous recent literature, in which the mortality rate after pneumatic dilatation was generally 0%.<sup>2-4</sup> In the current study, subjects were excluded if they had a prior diagnosis of achalasia in the preceding 5 years since the introduction of ICD-10 coding in 2001. This of course includes bias as it excludes a large group of patients who received previous achalasia treatments, among which PD, without dying.

In addition, patients receiving PD had a high age (26% > 78 years) and a high comorbidity score (12.6% >4). It is known that increasing age and comorbidity are risk factors for complications and adverse events, which can partially explain the elevated mortality rate after PD. Therefore, it would be useful to stratify the mortality according to age and comorbidity score.

The perforation rate (1.6%) was at the lower end of the range provided by the literature (0%–5%), which seems unexpected given the high mortality found.<sup>2 3</sup>

The authors state that under-reporting of complications is possible in HES data, which could explain the lower perforation rate. The lower perforation rate in combination with the elevated mortality rate, however, needs clarification. It appears that the HES database lacks the cause of death, and it seems unlikely that perforations are entirely responsible for the high mortality. That would only be possible when the mortality rate of perforation would be close to 100%, while it is nowadays closer to 0%.<sup>2-4</sup> With this discordance between expected mortality rate from procedure-related complications and actual mortality rate one wonders whether the reported mortality rate is actually procedure-related or not and whether the patients that died in the 30 days after pneumatic dilation would have died anyway regardless of whether they underwent a dilation.

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