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IS INTERNAL ANAL SPHINCTER DEGENERATION ASSOCIATED WITH LOWER OESOPHAGEAL SPHINCTER DYSFUNCTION?

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Introduction Internal anal sphincter (IAS) degeneration is the cause of up to 13% of faecal incontinence referrals to a

tertiary centre. The authors speculated that IAS degeneration may represent one aspect of a pan-enteric sphincter dysfunction, and investigated lower oesophageal sphincter (LOS) function and gastro-oesophageal reflux symptoms in these patients.

Methods In 14 consecutive incontinent patients with IAS degeneration (confirmed by endoanal ultrasound and manometry), the authors measured anal sphincter Resting Pressure (RP), LOS pressure and ambulatory pH-metry. None complained of reflux symptoms. Patients were stratified into two groups based on the total percentage time of pH<4: less than 5% (Group A, n=7; 4 females) and more than 5% (Group B, n=7; 4 females). Secondary outcome measures were the Vaizey incontinence scores and gastro-oesophageal disease quality of life (GORD-HRQL-total, plus heartburn and regurgitation subscores). Comparison of these parameters, correlations and linear regressions between primary and secondary outcome measures were performed.

Results Group B patients were significantly older than Group A patients (70 ± 7 vs 54 ± 15 years, $p=0.005$), had lower RP (22.8 ± 4.3 vs 38.5 ± 8.2 mm Hg, $p=0.007$ respectively) and LOS pressure (5.7 ± 2.1 vs 10.7 ± 4.5 mm Hg, $p=0.017$ respectively). There was no difference in IAS thickness between the 2 groups (1.2 ± 0.3 mm for both, $p=0.902$).

Vaizey incontinence scores were similar in the 2 groups ($A=18.1\pm3.1$ vs $B=17.3\pm2.5$), while all 3 GORD-HRQL were lower in group A than group B (GORD-HRQL-total 20.7 ± 5.1 vs 49.5 ± 12.4 , $p=0.001$; GORD-HRQL-hb 10 ± 2.7 vs 25.6 ± 9.7 , $p=0.001$ and GORD-HRQL-reg 10.7 ± 3.7 vs 24 ± 3.7 , $p=0.001$) respectively.

Correlations and linear regressions showed a significant inverse relationship between RP and GORD-HRQL-reg score ($r=-0.844$, $p<0.001$ and $\beta=-0.0997$, $p=0.007$), and RP and IAS thickness ($r=-0.844$, $p<0.001$ and $\beta=-1.465$, $p=0.006$).

Conclusion IAS degeneration in older patients seems to be associated with significant dysfunction of lower oesophageal sphincter. Further morphological and physiological study should determine if a similar pattern of ageing affects smooth muscle in the gastrointestinal tract.

Competing interests None.

Keywords degeneration, dysfunction, internal anal sphincter, lower oesophageal sphincter.