Impedance nadir values correlate with barium bolus amount.

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Abstract:

We examined the value of impedance monitoring in measuring bolus volume compared with videoesophagram. Eighty consecutive subjects were studied with simultaneous impedance-manometry-videoesophagram. A catheter with both an impedance electrode pair and a pressure transducer at four sites (5, 10, 15, 20 cm above lower esophageal sphincter) was passed per nares. Six 10-cc boluses of 45% barium mixed with 0.9% NaCl were swallowed at 20- to 30-second intervals. When impedance fell to below 1000 ohms, other than that occurring during administered swallows, the videofluoroscopic image corresponding to the time of impedance nadir was reviewed. If barium was present at the impedance site, barium area was calculated. The video was reviewed for the cause of abnormal barium transit causing barium presence. We found 38/80 subjects had a total of 169 impedance falls to below 1000 ohms. Ninety-seven percent (164/169) of impedance falls had barium present at the impedance site, and there was good correlation ($r = 0.83, P$

Keywords:

Bolus, bolus volume, impedance, reflux, videoesophagram.

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