Abdominal distention.

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Editorial Note

Abdominal distension is a symptom of functional gastrointestinal disorders like irritable bowel syndrome (IBS), and it's marked by a rise in abdominal pressure and a noticeable increase in total abdominal diameter. Abdominal bloating, which is essentially a subjective feeling of abdominal heaviness, is often followed by abdominal distension, which is an objective symptom. Bloating and distension both cause irritation and a burning feeling, lowering one's quality of life. According to an epidemiological survey, the average prevalence of bloating and distension is 19 percent and 9 percent, respectively, in Olmsted County, Minnesota. Patients with IBS and functional dyspepsia are more likely to have both bloating and distension, according to another US study, while bloating without distension is more common in patients with functional constipation. The prune-belly syndrome is characterised by abdominal distension combined with abdominal muscular hypoplasia, allowing the bowel loops to be seen clearly. Unless there is a urethral-visceral fistula or a patent urachus, other common findings include features of the Potter sequence due to oligohydramnios. The usual appearance on ultrasound of a dumbbell-shaped bladder or "keyhole sign," identifiable both in utero and postnatally, is due to marked posterior urethral dilation caused by obstruction at the membranous urethra. Abnormal somatic postural tone causes abdominal distention. We created an original biofeedback technique based on electromyography-guided abdominothoracic muscular activity regulation. We conducted a randomised, placebo-controlled trial to show that biofeedback is superior to placebo in the treatment of abdominal distention.

We enrolled consecutive patients with evident abdominal distention who met the Rome III requirements for functional intestinal disorders (47 women, 1 man; 21-74 years old) at a referral centre in Spain (47 women, 1 man; 21-74 years old); two patients in the placebo group withdrew, and two patients in the biofeedback group were not eligible for study. Electromyography was used to measure the movement of the abdomino-thoracic muscles. Patients in the biofeedback group were shown the signal and told to monitor muscle function, whereas those in the placebo group were given oral simethicone and no guidance. Over the course of ten days, each patient had three sessions. The primary outcomes were subjective feelings of abdominal distention, which were assessed using visual rating scales for 10 days before and after the procedure. Patients in the biofeedback community learned to minimise intercostal activity effectively (by a mean of 45 percent 3%), but not those in the placebo group (by a mean of 5 percent 2%; P < 0.001). Patients in the biofeedback community learned to improve anterior wall muscle activity (by a mean of 101 percent 10) while those in the placebo group (by a mean of 4 percent 2%; P < 0.001) did not. Patients in the biofeedback group had a 56 percent 1% reduction in abdominal distention (from a mean score of 4.6 0.2 to 2.0 0.2), while patients in the placebo group only had a 13 percent 8% reduction (from a mean score of 4.7 0.1 to 4.1 0.4) (P < 0.001). In a randomised trial of patients with a functional intestinal condition, we discovered that biofeedback-guided regulation of abdominothoracic muscular activity would effectively correct abdominal distention when compared to placebo.

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