Is visceral hyperalgesia correlated with symptoms severity in children with functional gastrointestinal disorders?

Abdominal pain related to functional gastrointestinal disorders (FGID) is frequent in children and can be of variable severity. Functional abdominal pain (FAP) and irritable bowel syndrome (IBS) are associated with rectal hypersensitivity. Our aim was to test the hypothesis that, in children with IBS or FAP, the rectal sensory threshold for pain (RSTP) is correlated with symptoms severity.

**Methods:** 52 patients (37 girls, mean age 13 years, range 8.5 to 17 y) with IBS (n=30) and with FAP (n=22), according to Rome II criteria, underwent a series of rectal isobaric balloon distensions using an electronic barostat to determine their RSTP. The patients completed the Questionnaire on Pediatric Gastrointestinal Symptoms in Children underlining symptoms of importance such as pain frequency and duration, missed days of school and missed activities with friends due to pain.

**Results:** The mean RSTP of IBS patients (19 mmHg ±10) was not significantly different from that of the FAP patients (23 mmHg ±11; p=0.2). 85% of the patients had a RSTP ≤ 30 mmHg which represents the 5th percentile of our control population and were considered hypersensitive. 81% reported abdominal pain for more than one year and 91% once a week or more. 52% and 37% respectively reported missing school and social activities at least once a week. No significant association was found between RSTP and pain frequency, duration of pain, missed days of school and missed social activities in the total population (multiple logistic regression p>0.20). The subset of patients with hypersensitive values of RSTP similarly did not demonstrate any relation with the same variables (multiple linear regression p>0.25).

**Conclusion:** In our population, rectal hypersensitivity, as measured by RSTP, was not proportional to the gravity of symptoms in children with IBS and FAP, suggesting that symptoms severity in FGID is not only under dependence of visceral hypersensitivity but is also influenced by other factors.