

ied oesophageal function through oesophageal manometry and intraluminal pH recording in a group of children with severe GERD who underwent laparoscopic antireflux fundoplication.

**Subjects and methods.** From September 1995 to October 2004 40 patients (median age: 8.3 years, range: 3–15) were studied. Neurologic and systemic diseases had been excluded in all. Clinical assessment (symptomatic score), oesophageal manometry and 24-h oesophageal pH test were performed in each patient before and 3, 6, 12, 24, 36, 48 and 60 months after surgery. Oesophageal manometry was performed with a low compliance system to evaluate lower oesophageal sphincter (LES) pressure (LESP)(mmHg), percent of deglutitive LES relaxation (PLESR), amplitude (Amp) (mmHg) and percent of peristaltic waves (PPW). Intraoesophageal pH was considered abnormal when the 24-h percent of GER was >5. Statistical analysis was done by ANOVA.

**Results.** (mean  $\pm$  S.D.). Surgery resulted in a marked reduction in the symptomatic score from a baseline value of  $9.7 \pm 2.1$  to  $4.2 \pm 0.9$ ,  $4.1 \pm 1.2$ ,  $3.51 \pm 1.4$ ,  $4.12 \pm 1.4$ ,  $3.8 \pm 1.9$ ,  $4.2 \pm 0.6$  and  $3.7 \pm 1.0$  at 3, 6, 12, 24, 36 48 and 60 months, respectively ( $p < 0.01$  versus baseline). A significant reduction in the intraoesophageal acid exposure was detected at all the follow up study months (3:  $4.58 \pm 1.4$ ; 6:  $4.78 \pm 1.56$ ; 12:  $4.8 \pm 1.17$ ; 24:  $4.95 \pm 1.53$ ; 36:  $4.86 \pm 1.86$ ; 48:  $4.7 \pm 1.4$ ; 60:  $4.6 \pm 1.7$ ) as compared to baseline ( $10.01 \pm 6.17$ ,  $p < 0.01$ ). Baseline values of LESP, PLESR, Amp and PPW were  $8.1 \pm 2.78$ ,  $89.05 \pm 7.7$ ,  $38.8 \pm 15.8$ ,  $82.0 \pm 12.24$ , respectively. LESP, Amp and PPW were significantly increased at all the post-operative follow up studies (3, 6, 12, 24, 36, 48, 60 months) as compared to baseline: LESP:  $16.5 \pm 3.41$ ,  $16.6 \pm 3.07$ ,  $16.54 \pm 3.18$ ,  $17.0 \pm 2.8$ ,  $16.9 \pm 2.5$ ,  $17.2 \pm 3.0$ ,  $16.8 \pm 2.9$  ( $p < 0.01$ ); Amp:  $51.25 \pm 14.5$ ,  $51.35 \pm 14.1$ ,  $50.8 \pm 14.46$ ,  $55.9 \pm 15.03$ ,  $57.81 \pm 14.7$ ,  $56.8 \pm 16.0$ ,  $58.5 \pm 16.8$  ( $p < 0.01$ ); PPW:  $87.0 \pm 10.9$ ,  $87.5 \pm 10.06$ ,  $87.05 \pm 9.8$ ,  $88.2 \pm 9.02$ ,  $88.7 \pm 8.82$ ,  $88.0 \pm 9.2$ ,  $87.5 \pm 8.8$  ( $p < 0.05$ ). The PLESR did not statistically change at the follow up evaluation.

**Conclusions.** After 5 years of follow-up, in children with severe GERD laparoscopic Nissen fundoplication provides excellent and sustained functional results consisting in reduced oesophageal acid exposure and improved oesophageal motor activity.

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#### PA 25 CONSERVATIVE TREATMENT OF CHILDREN CONSTIPATION WITH MACROGOL 4000

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**Purpose.** Macrogol 4000 is one of new generation of osmotic laxatives. It is constituted by a heavy molecular weight polymer (PEG 4000) without additional salts. In the most of the patients Macrogol 4000 shows its first effects after 48 h from the beginning of the treatment. Daily evacuations has seen after the first week of therapy with a really improvement of the quality of life. These characteristics have been showed by international literature. We are interested to demonstrate the immediate effectiveness of Macrogol 4000.

**Material and methods.** The effect of Macrogol 4000 was assessed in an observational study from September 2005 to March 2006. One hundred and twenty children (mean age 3.4 years, from 6 months to 11 years) affected by constipation (classified as Roma II criteria) were treated with therapeutic dose of Macrogol 4000.

We divided these patients in 6 groups:

- (I) 54 (47.4%) affected by isolated constipation.
- (II) 34 (28.3%) affected by constipation and anal fissure.
- (III) 4 patients (3.3%) had soiling associated with constipation.
- (IV) 22 patients (18.3%) had anus placed anteriorly with regular size and collocated in the centre of the sphincter complex.

(V) 4 patients (3.3%) affected by NID type B.

(VI) 2 patients (1.7%) affected by constipation and rectal prolapsus.

The data analysis was conducted by physical examination and consultation of stool frequency daily diary assembled by parents. We accounted 'normal' the patient with symptomatology improvement with reduction of the evacuation pain, reached of spontaneous evacuations and better stool consistence.

**Results.** Eighty-nine (74.1%) of 120 patients returned, after 2 mounts, at the control visit. 44 (49.4%) of these patients were treated with Macrogol 4000 'in primis', the others 45 (50.5%) had been treated with lactulosio, diet and/or enema without any benefit. Complete remission of constipation was reported in 72 children (80.8%) (primary endpoint), 9 patients (10.1%) rejected Macrogol 4000 for bad flavour, 8 (8.9%) had no symptomatology improvement. The children that had no benefit with Macrogol 4000 were affected by functional constipation in 7 cases and anus placed anteriorly in only one case. Twenty-five patients of the 45 patients who were previously treated without any benefit had normalised their clinical symptomatology with Macrogol 4000 (75.7%) (secondary endpoint).

**Conclusion.** The results of this observational study suggest an interesting role of Macrogol 4000 in paediatric patients with constipation, also in NID type B. All the patients affected by NID that returned at follow-up were in the group that gained normalisation of the symptomatology.

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#### PA 26 COMPARISON OF ROME II VERSUS ROME III CRITERIA IN CLASSIFYING CHILDREN WITH ABDOMINAL PAIN

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**Aim.** To compare the applicability of Rome II versus the recently discussed Rome III Criteria in classifying childhood abdominal pain.

**Methods.** We have retrospectively evaluated all the consecutive 314 patients aged 4–18 years [M 111; mean age 10.2 years (range 4.2 years–17.9 years)] referred to our Department for abdominal pain from January 2002 to January 2004 and enrolled in a previously study aimed to evaluate the applicability of Rome II criteria. A detailed questionnaire had been completed to assess clinical symptoms and children had been classified accordingly. Questionnaire have been re-evaluated based on Rome III criteria.

**Results.** In 31 children, duration of symptoms was 2 months or less. Out of the remaining 283 children with a chronic abdominal pain, 62 (22%) were diagnosed with an organic disease and in 23 abdominal pain was secondary to constipation. When the criteria were strictly applied to the remaining 198 patients, 105 (53%) fit the Rome II as compared to 181 (91%) who fit the Rome III criteria. Prevalence of subtypes of FGIDs according to Rome II and Rome III criteria respectively are as follows: 40 (20%) and 58 (29%) patients for IBS; 31 (16%) and 45 (23%) for FD; 30 (15%) and 72 (36%) for FAP [48 (24%) childhood FAP and 24 (12%) CFAP syndrome]; three (1.5%) and five for abdominal migraine; and one (0.5%) for aerophagia, both for Rome II and Rome III criteria. All subjects fulfilling the Rome II, also fulfilled the Rome III criteria. Children unclassified by the Rome II and III criteria were 93 (47%) and 17 (9%) respectively, prevalently due to one of the following: (a) enough symptoms to be excluded from FAP (relation of pain with physiological events as defecation or eating) but not enough symptoms to be included in IBS (pain relieved with defecation but its onset not associated with a change in frequency or in form of the stool) in 20 (12%) and in none patients for Rome II and III criteria respectively); (b) pain less frequent than required by the Rome criteria in 43 (24%) and in 7 (3.5%) children according to Rome II and Rome III; (c) pain associated with a minimal impairment of daily activity in 18 (9%) for Rome II and none (not included) for Rome III criteria; others in 12 (6%) and 10 (5%) according to Rome II and Rome III.