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Introduction

Divarication of the recti (Diastasis recti) is the separation of the rectus abdominis muscle into right and left halves (a gap of roughly 2.7 cm or greater), usually due to thinning and stretching of the linea alba resulting from various reasons. Typically, the two sides of the muscle are joined at the linea alba at the body midline. Divarication of the recti would appear as a long ridge extending down the abdominal

for one week. 68 (38%) required intramuscular meperidine 75 mg for severe pain in the first 12 hours postoperatively. Postoperatively, for patients in both the open and the laparoscopic methods, we applied an adhesive compression surgical bandage over the abdomen for the first 24 hours. The patients were advised to wear an abdominal binder (corset) for the following four weeks. All the patients were scheduled for follow-up in the outpatient clinic once every week for one month, then once every one month for six months, and once every six months for a total of 24 months.

Results

216 Saudi Arabian patients who were treated surgically for divarication of the recti were included in the study. 31 (14.4%) patients were males and 185 (85.6%) were females. Male to female ratio (1:5.96).

The mean age was 40.9 ± 2.7 years (range, 36–49). The mean body mass index (BMI) was 26.39 ± 2.8 kg/m² (range, 24.7–33.6). The mean preoperative IRD, measured by computed tomography scan, was 10 cm, range 7–13 (Table 1).

The most common predisposing factor was multiple previous pregnancies in 185 (85.6%) patients, all (100%) were females. Heavy, prolonged exercise for weight reduction, in previously obese patients, in 19 (8.8%) patients. History of abdominal trauma in 8 (3.7%) patients. Idiopathic in 4 (1.9%) patients (Figure 1).

The most common reason for requesting surgical management was cosmetic in 137 (63.4%) patients among which 116 (84.7%) were females and 21 (15.3%) were males. Abdominal protrusion and pain were reported by 52 (24.1%). Back pain and postural changes were reported by 27 (12.5%). Open repair with polypropylene mesh reinforcement was done to 179 (82.9%), among which 159 (88.2%) were females, and 20 (11.2%) were males. Laparoscopic repair with polypropylene mesh reinforcement was done to 37 (17.1%) of which 26 (70.3%) were females, and 11 (29.7%) were males. The mean operative time for the open method was 92.06 ± 25 minutes, range 78–107. The mean operative time for the laparoscopic method was 127.1 minutes, range 118 – 137.

Postoperative complications in the open method group were recorded as tightness in the abdomen in 37 (20.7%) patients, wound infection in 11 (6.1%), seroma in 9 (5%), hematoma in 5 (2.8%), and foreign body sensation in 3 (1.7%). Postoperative complications in the laparoscopic method group were recorded as tightness in the abdomen in 9 (24.3%), abdominal pain in 4 (10.8%) and foreign body sensation in 3 (8.1%). The recurrence rate was 0% in both groups after 6, 12, 18, and 24 months follow-up. The mortality rate was 0% in both groups.

The mean decrease in abdominal girth for the open method patients was 12.5 ± 1.53 cm (range: 9–16 cm). The mean decrease in abdominal girth for the laparoscopic method patients was 11 ± 1.27 cm (range: 8–14 cm). A computed tomography scan was done to all the patients four weeks postoperatively which showed complete obliteration of IRD in all patients (100%). The cosmetic outcome in the open method group, from the patient perspective, was reported as excellent in 124 (90.5%),

good in 7 (5.1%), unsatisfactory in 6 (4.4%). The cosmetic outcome in the laparoscopic method group, from the patient perspective, was reported as excellent in 28 (75.7%), good in 6 (16.2%), unsatisfactory in 3 (8.1%). In both groups, 197 (91.2%) reported a good abdominal muscle tone that enabled them to perform regular activities while 19 (8.8%) reported moderate muscle tone, but not limiting their activities.

Discussion

The mean age in our study patients was 40.9 ± 2.7 years (range, 36–49) with the male to female ratio (1:5.96, female predominance). It corresponds to the most common predisposing factor for divarication of the recti in our series, multiple previous pregnancies in 185 (85.6%) patients. The mean BMI was 26.39 ± 2.8 kg/m² (range, 24.7–33.6) which reflects the fact that most of our patients had a good body built, not obese, an observation that might have contributed positively to the good result. We used a 15 × 15 cm polypropylene mesh in all the patients given that the mean preoperative IRD, measured by computed tomography scan, was 10 cm, range 7–13. Despite the large size, implanting the mesh was smooth and proper, thanks to the superb flexibility and biosynthetic characteristics of the mesh.

Most surgeons believe that abdominal wall defects are best repaired using prosthetic mesh compared to simple suturing while such agreement does not exist for the repair of divarication of the

