Gynecologic Oncology Reports 22 (2017) 111–112

Contents lists available at ScienceDirect

Gynecologic Oncology Reports

journal homepage: www.elsevier.com/locate/gynor

Correspondence

Believable or not believable MRAM

I would be grateful to have an open discussion of our experiences that were published recently in Gynecologic Oncology (Cibula et al., 2017) with Professor Höckel, who is respected for his seminal papers in radical surgery in gynecological oncology. But only if the discussion is respectful.

Let me comment on a few points that he raised in his letter:

1) **Omentum majus flap instead of MRAM**. Professor Höckel promotes the use of the omental flap instead of MRAM. Unfortunately, as our paper discusses, the omentum is often times not present or it is in adhesions. This means that in many patients who received previous radiotherapy or abdominal surgeries it cannot be used for this purpose. Moreover, since its attachment in the upper abdomen must be preserved for its vascular supply, usually only a small part of the omentum can be transposed to the pelvis. In our experiences especially in slim patients, the omentum can be tiny, and the flap is associated with the risk of necrosis. Most importantly though, while the omentum can, in the best case, cover denuded pelvic walls, it is not massive enough to fulfill two other important roles of the reconstructed pelvic floor, which are to fill in a large pelvic defect and create a mechanical support for small bowels.
2) **Pudendal thigh, gracilis or gluteal thigh flaps instead of MRAM**. We agree that those flaps are excellent options for covering the perineal defects. At the same time, it is difficult to argue for harvesting those flaps in the gluteal or thigh region, when the rectus muscle is so easy to reach from midline laparotomy. Another reason those flaps would not be our first option is that their mobility is limited and only a small distal part reaches the level of the original pelvic floor.
3) **Terminology**. Different terms are used for the procedures aiming to remove structures localized at the lateral pelvic side wall, such as LEP (Laterally Extended Parametrectomy), LEER (Laterally Extended Endopelvic Resection), and ELSE (Extended Lateral pelvic Side wall Excision). LEER was introduced to the gynecological literature by Professor Höckel (Höckel, 2003), ELSE was proposed in colorectal surgery (Shaikh et al., 2014). Since resection of muscles, vessels, pelvic bones and even nerves were included in our series, “ELSE” was used in our article. In our opinion, this corresponds best with the description of the procedures we performed.
4) **Innovation of our approach**. The use of the rectus abdominis flap has been reported by many authors within the last three decades and it is adequately discussed in our paper. In all those reports, these flaps have been used to either cover perineal defects or create a neovagina. For that purpose, the musculocutaneous flap with the resection of the respected part of the anterior rectus sheath had to be harvested and the flaps were placed vertically to the pelvis. Interestingly, also in the paper by Professor Höckel, the use of flap is reported in 8 patients out of 91 after the LEER procedure, all of them, moreover, for the vagina reconstruction (Höckel et al., 2012). I did not find in his article any note on pelvic floor reconstruction in those in whom neovagina was not created.

   “Modification” of our rectus abdominis myoperitoneal flap (MRAM), as it is emphasized in the article, is twofold. Firstly, since the main intention is not to cover any skin defect, only muscle, posterior rectus sheath and peritoneum form the flap, while the key structures for the continuity of the abdominal wall, anterior rectus sheath, and skin are preserved. Secondly, a single or bilateral flap is/are transposed to the horizontal position in a U-shape to the pelvis, at the level of the resected muscles, mimicking the removed pelvic floor. The intention is to fill in the pelvic defect, prevent empty pelvis syndrome, cover a denuded structures in the pelvis, especially bones, and create an artificial mechanical support for small bowels in the pelvis.
5) **Believable or not believable**. Professor Höckel emphasized his good experiences with omental flap and thigh flaps. We reported our experiences with rectus abdominis flap, which in our opinion, has many advantages: it is massive, easy to harvest if the approach is laparotomy, easy to transpose the complete flap to the pelvis and create a new massive pelvic floor since its vascular pedicle originates from the iliac vessels. The use of MRAM dramatically improved our post-operative outcome in procedures which are typically associated with high morbidity. Although our article has been published only recently, colleagues from other respected institutions have already reported successful use of MRAM in their patients. Such feedback is rewarding and reassuring for us.

Conflict of interest

Dr. Cibula has nothing to disclose.

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DOI of original article: http://dx.doi.org/10.1016/j.gore.2017.07.005

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Available online 13 July 2017

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