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EDITORIAL

Surgical repair of vesico-vaginal fistula: the need for an evidence-based approach

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The most common cause of vesicovaginal fistula (VVF) in developing and low-/medium-resource countries is obstructed labor, while in developed and high-resources countries, VVF is usually caused by iatrogenic trauma during pelvic operations. Success rates for fistula repair in obstetric VVF are seldom reported, although for iatrogenic causes cure rates reaching 90% have been described depending on the operative approach and surgical technique. VVF not only has detrimental effects on the quality of life of the affected women, but also on their caring physicians who are expected to manage this difficult complication by either primary repair or referral to expert colleagues. Furthermore, healthcare providers involved in VVF management may face medico-legal liability or malpractice litigations if the woman is not satisfied with care. This editorial focuses mainly on approaches to the management of iatrogenic VVF in women as obstetric VVF has been extensively discussed in the urogynecologic literature [1].

Two recently published systematic reviews have described the etiology, management and outcome of iatrogenic VVF in women. The authors echo the conclusion of previous studies that the outcome of repair is affected by the number, size and site of fistulas, the first attempt at fistula repair being the most successful, and the route of surgical approach depends mainly on the surgeons' preferences, reflecting their skill set [2, 3]. However, the optimal timing of repair, necessity of interposing tissue after fistula closure and postoperative period of catheter drainage still lack consensus. The success of conservative treatment using continuous catheter drainage is < 10% [2, 3]. In recent years, minimally invasive techniques have been introduced to the surgical repertoire for VVF repair, such as laparoscopic repair introduced in the 1990s and robotic-assisted laparoscopic repair first reported in 2005. Advocates of these novel approaches have emphasized that both minimally invasive techniques cause relatively less surgical trauma, less blood loss, a shorter recovery period and less morbidity and therefore may be significantly better than or not inferior to traditional transabdominal repair [4].

Despite the increasing surgical options for primary repair of iatrogenic VVF in women, cure rates have not significantly improved over the past decade. In this era of evidence-based medicine, it is rather difficult to compare outcomes between different surgical techniques of VVF repair and decide which approach is superior to others for several reasons when "legitimacy belongs to the victor," as the Chinese proverb says. In fact, there are no randomized controlled trials on the primary management of iatrogenic VVF in women because of ethical concerns associated with conducting surgical intervention studies. Furthermore, there is an obvious selection bias in the literature regarding choice of the route of repair as this is often based on surgeon's preference, reflecting their personal skill set, or based on the size or location of the fistula. Most of the published reports describe the outstanding results of primary repairs of simple VVF compared with complicated or multiple VVFs, with a possible publication bias. Judging the success rates of VVF repairs in different approaches can result in overestimated outcomes because of these publication biases.

Transvaginal repair is the most minimally invasive approach and at this point should be recommended as the first choice for repairing iatrogenic VVF because of its simplicity, efficacy and low mobility. However, the transvaginal approach is limited by the location and size of the fistula as well as the capacity of the vagina [4]. Transabdominal repair with a transvesical or extravesical approach, with or without interposition of omental graft, could be indicated for supratrigonal

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and complex VVF repair. Nevertheless, complexities of VVFs are highly heterogeneous, and the resources for surgical intervention for VVFs are disproportionate. Reported outcomes of VVF repairs were often based on individual surgeon preference or a single center rather than on evidence-based criteria. So far, there is no standard surgical treatment algorithm or guideline that can be followed.

As previously mentioned, women with VVF experience significant distress. The final goal for both patient and surgeon is successful repair. Consultation for repairing iatrogenic VVFs should be comprehensive and should consider different perspectives of the woman's medical and socio-cultural background in concert with the surgeon's preferred approach. The strategy of shared decision-making, not only to obtain informed consent, should be used in patient counseling. The decision regarding the route of repair should be made by consensus between the woman and her physician. In the event that a situation exists where the woman may benefit from an approach with which her primary surgeon has little experience, consultation with multidisciplinary colleagues may be beneficial.

A final comment about obstetric VVF is warranted. The global health agenda since inception has focused primarily on training of local surgeons in fistula repair through funding of renowned international experts to visit regional fistula centers. The effectiveness of this approach in the long-term has been questioned [1]. In contrast, endeavors to prevent the occurrence of obstetric VVF were of secondary importance. It is timely for the international strategy and financial resources for obstetric VVFs to be directed more toward prevention than treatment in low-resource countries. This includes education and training of healthcare providers in evidence-based management of labor as well as restructuring of maternity healthcare systems by improving access to antenatal care in the public setting, increasing the number of secondary care obstetric units, developing patient transport infrastructures, establishing referral algorithms and care pathways for obstructed labor, and expanding the critical mass of trained obstetric providers.

Compliance with ethical standards

Conflict of interest Gin-Den Chen: none.
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