

LETTER TO THE EDITOR

Unexpected outcome after standard uterine embolization in obstetric hemorrhage

Sir,

We have read with great interest the paper by Dr. Coulange et al. (1), who described two cases of uterine necrosis subsequent to embolization with resorbable material. Although the occurrence of necrosis in such cases seems unlikely, we believe that certain factors could be held responsible and are independent from the nature of the embolic agent. It has been demonstrated that the gelatin sponge preparation can have a direct effect on the final size of the particles used for embolization (2). For instance, if the 'pumping' technique is used, particles smaller than 500 μ are capable of blocking the distal anastomotic blood flow. On the other hand, the 'cutting' technique produces a higher number of particles over 2,000 μ , thus reducing the risk of distal anastomotic blockage and, therefore, of uterine necrosis. Other technical aspects to be considered rely on the embolization technique. Free flow embolization is mandatory to correctly target the embolic material, avoiding occlusion of uterine anastomoses or undesired distal embolization. If the embolization technique is made with high pressure, this would reroute to distal anastomotic channels, increasing the risk of unwanted occlusion. Lastly, we would like to emphasize the role of the not so well known lower uterine anastomotic system (3). This arterial net helps to maintain blood supply to the uterus once both uterine and ovarian arteries are occluded. For many years, the ovarian system and the artery of the round ligament were thought to be responsible for flow to the uterus if the uterine arteries were occluded. However, later studies showed that tangential compression of the uterine artery and of its lower anastomoses rendered the compensating flow through the upper pedicle impossible, leading to ischemia within six hours (4). The simultaneous occlusion of both uterine arteries and the vaginal anastomotic pedicle in the first case could have led to anastomotic insufficiency and subsequent

necrosis. As to the second case, we believe that a series of already mentioned factors caused the undesired embolization of the right adnexa. We do not agree with the statement that the absence of a uterine-ovarian anastomotic network constituted a risk factor since, if it did not exist, retrograde embolization of the ovary through the uterine artery would be anatomically impossible. Finally, we would like to congratulate the authors, because the publication of infrequent cases of serious complications will no doubt contribute to the continuous improvement of endovascular treatment of postpartum hemorrhage.

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