Varicocele

In another study we compared different groups using several embolic agents, such as Glubran® 2, polidocanol, and coils (Fig. 50)[17]. Our study concluded as follows: "***The use of Glubran® 2 acrylic glue for varicocele embolization is safe and leads to less radiation and lower recurrence rates than is the case for other embolic materials without any more significant pain***" (Figs.51,52)[18]. This is a typical distal embolization performed with a 5 F catheter. As shown in the picture, the standard goal is usually to embolize from point A to point B, which we believe is a mistake, since revascularization and recurrence always involve the saphenous branch below the iliopectineal line. Disregarding the difference in branches, we always have anastomosis behind this point, and this is why we prefer to embolize from point C to point A. We place the microcatheter at point C and start injecting a 1:1 ratio mixture while retracting the microcatheter until the embolization is complete and we can remove it. When it is not possible to place the microcatheter far enough, we can exploit the features of liquids by placing the tip at point A and ask the patient for Valsalva. This will help the glue to travel distally, all the way down to point C. In case of reflux at the tip, make sure you do not immediately remove the microcatheter, but wait for polymerization to start and withdraw the microcatheter after about 5 minutes[18].

biomedicines

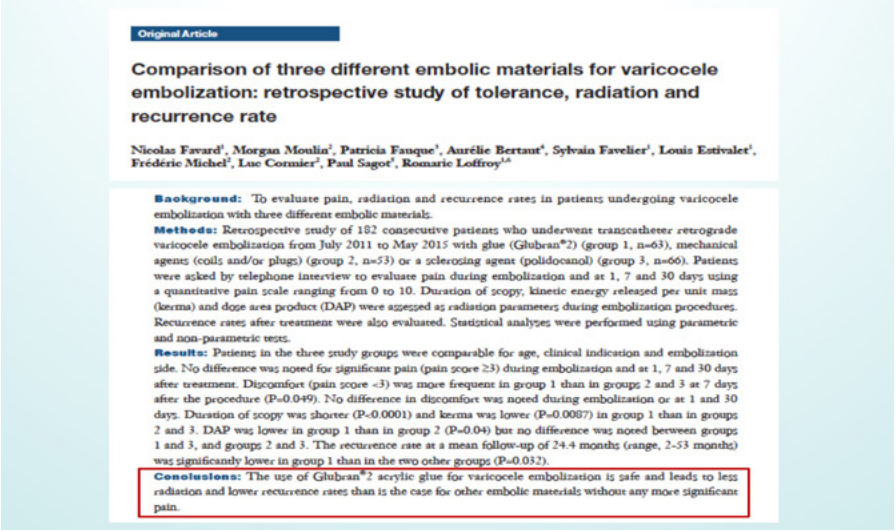
MDPI

Article

Relevant Biological Effects of Varicocele Embolization with N-Butyl Cyanoacrylate Glue on Semen Parameters in Infertile Men

Olivier Chevallier [1,2], Patricia Fauque [3], Carole Poncelet [4], Kévin Guillen [1,2], Pierre-Olivier Comby [2,5], Karine Astruc [6], Julie Barberet [7], Nicolas Falvo [1], Emmanuel Simon [7] and Romaric Loffroy [1,2,*]

Figure 50



Original Article

Comparison of three different embolic materials for varicocele embolization: retrospective study of tolerance, radiation and recurrence rate

Nicolas Favard[1], Morgan Moulin[2], Patricia Fauque[3], Aurélie Bertaut[4], Sylvain Favelier[2], Louis Estivalet[2], Frédéric Michel[2], Luc Cormier[2], Paul Sagot[2], Romaric Loffroy[1,6]

Background: To evaluate pain, radiation and recurrence rates in patients undergoing varicocele embolization with three different embolic materials.

Methods: Retrospective study of 182 consecutive patients who underwent transcatheter retrograde varicocele embolization from July 2011 to May 2015 with glue (Glubran®2) (group 1, n=63), mechanical agents (coils and/or plugs) (group 2, n=53) or a sclerosing agent (polidocanol) (group 3, n=66). Patients were asked by telephone interview to evaluate pain during embolization and at 1, 7 and 30 days using a quantitative pain scale ranging from 0 to 10. Duration of scopy, kinetic energy released per unit mass (kerma) and dose area product (DAP) were assessed as radiation parameters during embolization procedures. Recurrence rates after treatment were also evaluated. Statistical analyses were performed using parametric and non-parametric tests.

Results: Patients in the three study groups were comparable for age, clinical indication and embolization side. No difference was noted for significant pain (pain score ≥3) during embolization and at 1, 7 and 30 days after treatment. Discomfort (pain score <3) was more frequent in group 1 than in groups 2 and 3 at 7 days after the procedure (P=0.049). No difference in discomfort was noted during embolization or at 1 and 30 days. Duration of scopy was shorter (P<0.0001) and kerma was lower (P=0.0087) in group 1 than in groups 2 and 3. DAP was lower in group 1 than in group 2 (P=0.04) but no difference was noted between groups 1 and 3, and groups 2 and 3. The recurrence rate at a mean follow-up of 24.4 months (range, 2–53 months) was significantly lower in group 1 than in the two other groups (P=0.032).

Conclusions: The use of Glubran®2 acrylic glue for varicocele embolization is safe and leads to less radiation and lower recurrence rates than is the case for other embolic materials without any more significant pain.

Figure 51

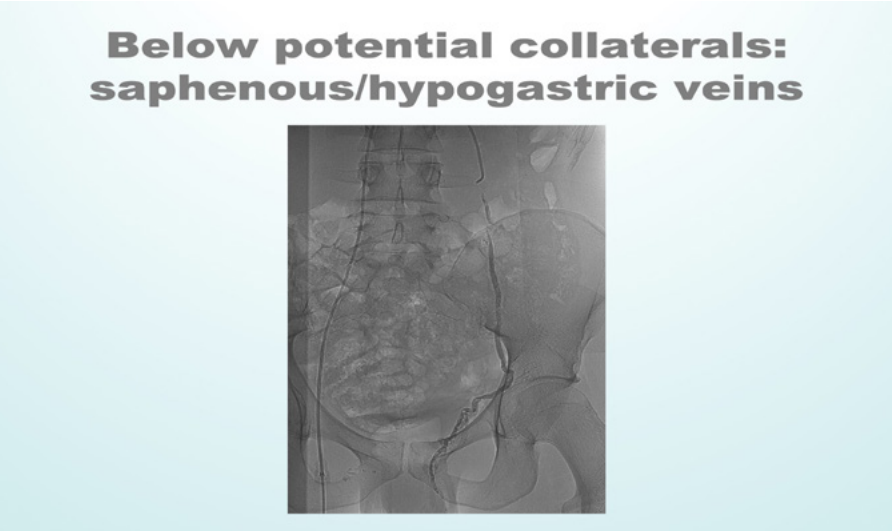

Below potential collaterals:
saphenous/hypogastric veins

Figure 52

Pelvic congestion syndrome (PCS): connection with internal iliac artery (IIA)

The goal in this case is to embolize the reservoir in order to achieve a distal embolization (Fig. 53). The steps here are to first put one or two coils at the proximal port, go through the coils with the microcatheter, inject the glue from the distal port, and ask the patient for Valsalva while removing the catheter until we reach the coils.
In women varices are normally very large and the cast of glue in case of reflux can be less easily controlled so we use the coils not to occlude but to protect. A possible reflux would be trapped by the coils.

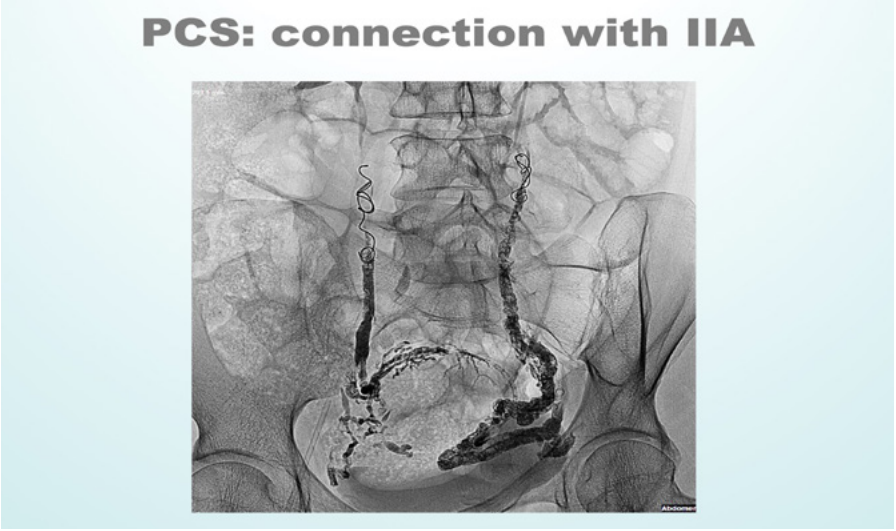


Figure 53

False aneurysm at the common femoral artery

Here we have a false aneurysm at the common femoral artery (Figs.54,55). In this case we need additional access, as it is mandatory to place a balloon in front of the neck in order to prevent reflux that would be seriously difficult to handle.
After placing the balloon, we inject the glue directly in the sack using the metallic needle and, under fluoroscopy, we fill the sack using a 1:1 mixture. We wait about 5 minutes before deflating the balloon. Always perform a thorough check to ensure nothing is left in the artery. A 0.035" balloon poses no risk of sticking or bursting (Fig.56).

Figure 54

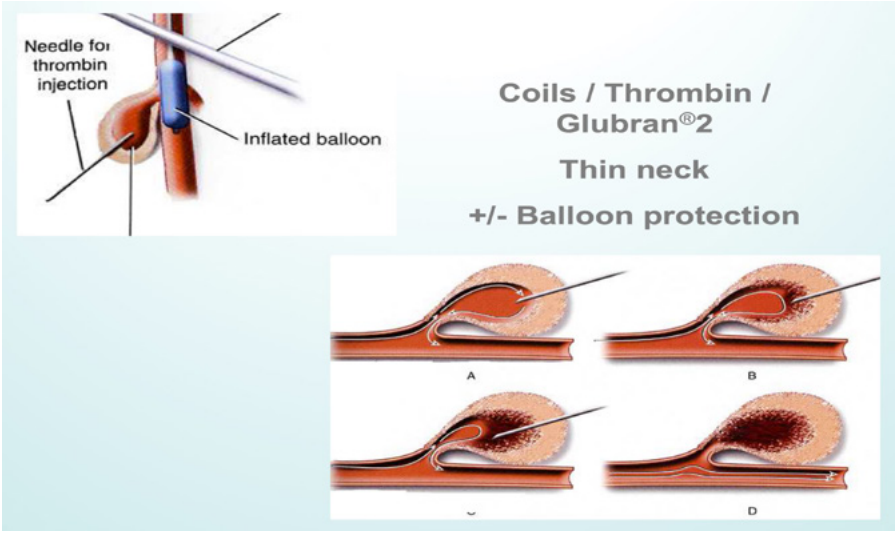


Figure 55

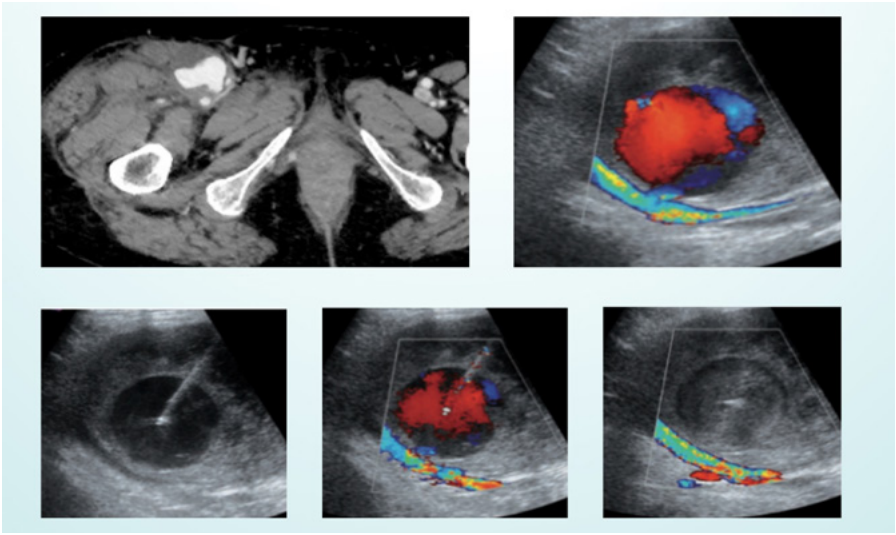


Figure 56