

## Varicocele

In another study we compared different groups using several embolic agents, such as Glubran® 2, polidocanol, and coils (Fig. 50)<sup>(17)</sup>. 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)<sup>(18)</sup>. 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<sup>(18)</sup>.

Article

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

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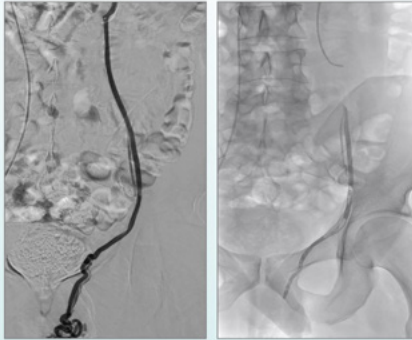


Figure 50

Original Article

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

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

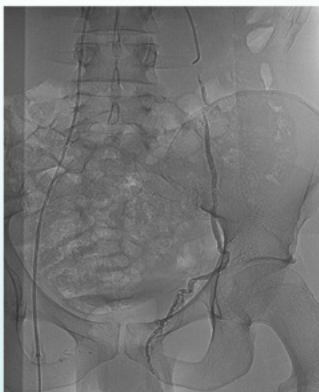
**Methods:** Retrospective study of 182 consecutive patients who underwent transcatheter retrograde varicocele embolization from July 2011 to May 2015 with glue (Glubran<sup>®</sup>2) (group 1, n=63), mechanical agents (coils and/or plugs) (group 2, n=53) or a sclerosing agent (polidocanol) (group 3, 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 (keema) 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 keema 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<sup>®</sup>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*