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Varicocelectomy for infertility – Does age matter?

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Introduction and Objective

Varicocele is present in 15% of the general population, and in 35% of primary infertility and 70-81% of secondary infertility cases, being **the most common cause of male infertility**.
Its correction **improves semen parameters and pregnancy rates**, however it is still controversial if varicocelectomy has the same efficacy in older males.
With the development of assisted reproductive techniques (ART), these are more likely to be offered as primary treatment for infertility, leading to a delay in the diagnosis and treatment of male infertility factors, including varicocele.

We aimed to evaluate the **efficacy of varicocelectomy** in sperm parameters and pregnancy rates, **and the effect of age on the outcomes of this procedure.**

Methods

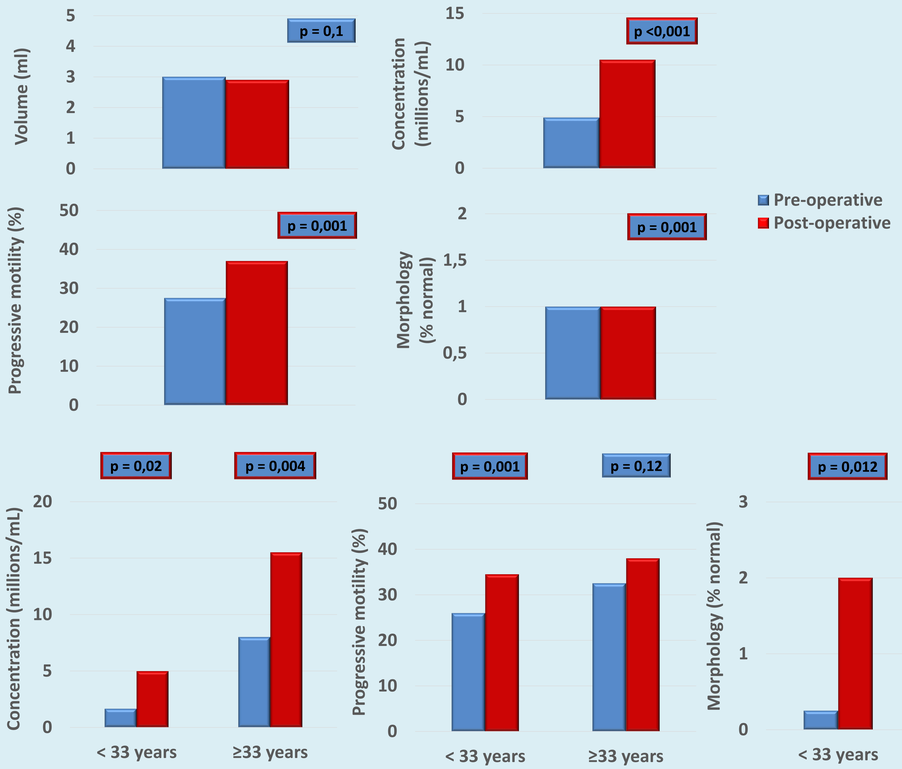
We retrospectively analyzed **all cases submitted to varicocelectomy due to infertility** between June 2012 and June 2019 in our institution, evaluating its efficacy in sperm parameters and pregnancy rates improvements.

Exclusion criteria were other significant contributors of infertility, and infertility without sperm changes or with subclinical varicoceles.

Subsequently, **we stratified the population into two age group**, using the mean age of the overall population, verifying if there were any differences on the outcomes between them.

Statistical analysis was done with SPSS Statistics v24, with a p value <0,05 considered statistically significant.

Results



In this period, 42 patients underwent varicocelectomy, with a mean age of 33,3±5,1 years.
Overall, there was an **improvement in sperm concentration (p<0,001)**, **progressive motility (p=0,001)** and **morphology (p=0,001)**, although in the last there was a higher number of males without any change (n=20, 48%). There were no differences related to sperm volume (p=0,1).

Dividing the patients in two different groups, using as cut-off the mean age (<33 vs ≥33 years), we observed no differences regarding the number of patients who presented any kind of improvement in semen parameters (67% vs 58%; p=0,582). However, **the younger group presented a more pronounced improvement in the sperm concentration** (increase of 203%; p=0,02 vs 94%; p=0,004), and was **the only who presented an improvement in motility** (increase of 33%; p=0,001).

Overall, the patients' **spouses' pregnancy rate was 35%**, the majority of them (71%) from males who have had improvement in sperm parameters. The **younger patient group** presented a statistically significant **higher rate of deliveries (60% vs 20%; p=0,006)**, that remained even after **adjusting for the spouse age (OR= 5,55; p=0,035)**.

Conclusions

Varicocelectomy is an effective technique in **the improvement of sperm parameters**, with **the younger males** being the ones who benefit the most. Surgical correction in a **younger age is associated with higher success in pregnancy rate** and should be employed early.