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A DIFFERENTIATED ALGORITHM FOR SURGICAL METHOD SELECTION AND EARLY REFERRAL TO ASSISTED REPRODUCTION IN VARICOCELE-ASSOCIATED INFERTILITY

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Relevance

The choice of surgical method for varicocele is often based on surgeon preference rather than on the hemodynamic source of reflux and the patient's prognostic profile, while the limited availability and high cost of assisted reproductive technologies make the rational selection of candidates for surgery particularly important. An integrated algorithm linking method selection to reflux type and prognosis is therefore needed.

Material and methods

On the basis of clinical, hemodynamic (Coolsaet reflux type), functional (semen parameters, DNA fragmentation index) and hormonal data of 139 patients, a differentiated algorithm was developed. It links the operative method to the source of reflux and defines the indications for early referral to assisted reproduction, with follow-up control of semen parameters and the DNA fragmentation index at 3, 6 and 12 months.

Results and discussion

The algorithm assigned the Marmar operation to type I reflux, laparoscopic clipping to bilateral type I, and venous anastomoses to type II–III reflux. Early referral to assisted reproduction was indicated when a DNA fragmentation index above 35%, FSH above 10 IU/L and inhibin B below 100 pg/mL were combined.



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Matching the method and the intensity of reproductive support to the prognosis reduced the proportion of futile interventions and allowed part of the couples to be managed with less costly methods (insemination, natural conception) instead of in vitro fertilization.

Conclusion

A differentiated algorithm that links surgical method selection to the hemodynamic source of reflux and defines criteria for early referral to assisted reproduction individualizes the management of varicocele-associated infertility, reduces futile interventions and improves the efficiency of treatment.