Hysterosalpingography and fertility: a technical relationship

In this issue, the article by van Rijswijk and colleagues (1) discusses the technical improvement in a diagnostic procedure that has therapeutic implications. The authors observed a definitively proven increase in fertility after hysterosalpingography (HSG) related to the use of oil versus water iodinated contrast media. They already have published a paper (2) showing that the rates of ongoing pregnancy and live births were higher among women who underwent HSG with oil contrast than with water contrast. They found a 10.6% increase in pregnancy and a 10.7% increase in the live-birth rate in the oil-group within 6 months (2). However, the costs and influence of the selected HSG contrast media were not evaluated. In this article (1), the authors determine the cost-effectiveness of the use of oil versus water-based contrast in the same population (1,119 infertile women undergoing HSG through a multicenter randomized trial in 27 hospitals in the Netherlands).

van Rijswijk and colleagues (1) demonstrate that although more effective, the oil contrast agent was more expensive, with a cost of US$8,198 for an additional ongoing pregnancy, considering the contrast media and pregnancy and delivery costs. This increase cost is less than in vitro fertilization/intracytoplasmic sperm injection treatment, and the process is less time consuming and burdensome for women. Although not extended in clinical practice, it seems reasonable to use oil-based contrast media for HSG as a cost-effective strategy for pregnancy and live birth.

However, before it is widely used for this indication, some aspects must be clarified. The safety profile seems to be high, with minor adverse events in both water and oil groups. The increased rate of congenital anomalies in the oil group seems unrelated to the contrast media, but larger experience should be reported due to the observed differences. Absorption of the oil contrast media might be problematic, with the risk of inflammatory changes within the peritoneal cavity. This immunological result is considered responsible for the enhanced fertility found in this group (3). Follow-up studies might be limited due to the lack of dissolubility in the peritoneum and prolonged observation needed of the small amounts of the oil agent within the peritoneal cavity. This might influence long-term peritoneal adhesions. These aspects, and the observed mutagenesis potential, warrant a follow-up of the 554 women treated with the oil contrast agent in the published series in order to evaluate long-term effects.

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