NEWS AND VIEWS

REPRODUCTIVE HEALTH CARE POLICIES AROUND THE WORLD

Technical Note: Blood Contamination of Aspirated Follicular Fluid

Recently, an interesting article by Levay *et al.* (1) appeared in this journal. These South African authors compared the methods used in clinical practice to identify the degree of blood contamination in human follicular fluid. The problem is intriguing, but of little investigative use. Our experience is that during aspiration, contamination of follicular fluid with blood occurs more frequently than is generally reported. The preovulatory Graafian follicle is a site of intensified synthesis of inflammatory mediators including cytokines and hyaluronidase (2), which affect the integrity of the follicular membranes, as well as of perifollicular capillary vessels. Therefore, when the pressure inside the follicle rapidly decreases at ovulation or during puncturing for aspiration, blood vessels may rupture and bleed into the follicle. In our opinion, aspirating a truly blood-free fluid would suggest an immature or atretic, rather than a preovulatory, follicle.

As indicated by Levay *et al.* (1), simple visual inspection can identify blood-stained follicular fluids in a reasonable proportion of cases. Should the sample be subsequently centrifuged, red blood

cells are removed, providing satisfactory purity for some analyses. However, this procedure does not exclude the interference of hemoglobin derivatives resulting from former hemolysis. Having their maximum absorbance at 540 nm, oxyhemoglobin and cyanoheemoglobin interfere with other compounds absorbing similar wavelengths, such as lipid peroxidation products. For instance, thiobarbituric acid-reactive substances (TBARSs) show maximum absorbance at 530–532 nm. In 1993 Pyles *et al.* (3) described the measurement of plasma TBARSs in the presence of hemoglobin and bilirubin. We have been using this method successfully in our laboratory, and would recommend it for TBARS measurement in follicular fluid.

The purpose of this note is to draw attention to the possibility that hemoglobin and its derivatives, and possibly other blood compounds, may affect biochemical determinations in follicular fluid. Therefore, appropriate selection of biochemical assay is crucial for obtaining reliable results.

REFERENCES

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