

Abstract Details

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Abstract title:

Self-detection of the endogenous LH surge using urine testing as a simple and efficient confirmation of successful GnRH agonist trigger in IVF.

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Study question:

How can we ascertain that an endogenous LH surge was efficiently induced by a GnRH agonist (GnRH_a) trigger in order to avoid oocyte retrieval failure?

Summary answer:

Urine LH testing performed at home by the patient is a simple, cheap, and efficient way to confirm the efficacy of a GnRH_a trigger.

What is known already:

Since GnRH_a trigger was introduced in daily practice, questions have arisen about how to detect involuntary errors in the administration of the medication or patient compliance, particularly in oocyte donors. When hCG is used as a trigger, a urine pregnancy test can easily detect if hCG was administered or not. As for GnRH_a trigger no recommendations exist, however, some clinics advocate LH testing in blood the morning after the trigger. From a practical point of view this is inconvenient for the patient/donor as she needs to visit the center again.

Study design, size, duration:

Prospective cohort study including a total of 371 oocyte donors from May 2017 till November 2018, and approved by our IRB (1701-MAD-006-JG). Urine LH testing was performed at home, using the same test (Ruedafarma, Spain, sensibility 25 mIU/mL) and urines from the first micturition in the morning after the GnRH_a trigger. Donors had to send a picture of the LH test outcome to the nurse by WhatsApp as soon as the test was performed.

Participants/materials, setting, methods:

A total of 371 oocyte donors were included in the study. A single dose of 0.2 mg GnRH_a (Decapeptyl 0.1 daily, Ipsen Pharma, Spain) was administered to trigger final oocyte maturation when at least three follicles reached a mean diameter of 17 mm. The nurse instructed the donor to self-administer the GnRH_a at night according to the time of retrieval, and to perform the urine LH test next morning with first micturition.

Main results and the role of chance:

Of a total of 371 donors included in the study, 12 forgot to perform it, leaving a total of 359 oocyte donors and oocyte retrievals for analysis. A total of 355 donors had (98.88%) positive LH testing and an uneventful oocyte retrieval with good retrieval rates. One test was positive, however, no oocytes were retrieved (false positive rate 0.28%). A total of three tests were negative (false negative rate 0.85%). In one of these cases, LH was tested in serum and values confirmed an LH rise consistent with a GnRH_a trigger. In two cases, the pickup was rescheduled after hCG trigger and a good number of mature oocytes were retrieved.

Limitations, reasons for caution:

Failure to respond to a GnRH_a trigger in terms of an adequate LH rise is a relatively rare phenomenon, and a future larger sample size is needed to confirm the findings of this study.

Wider implications of the findings:

This new approach of LH surge self-testing in urine and communication via a picture provides a simple and cheap method to confirm that LH rise was induced by a GnRHa trigger. It may help to detect errors in the administration, improving patient compliance and minimizing failure to retrieve oocytes.

Trial registration number:

not applicable

Keywords:

agonist trigger

LH rise