CLINICAL IMPLICATIONS OF MEASURING PROLACTIN LEVELS IN MALES OF INFERTILE COUPLES

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Introduction. - The role of prolactin (PRL) in males is not clear.
- Animal models: PRL does not play a major role in male reproduction; however, trophic action on male accessory glands often observed.
- Studies in humans are scanty.

Aim. To systematically evaluate possible clinical and ultrasound correlates of PRL in males of infertile couples.

Methods: Out of 288 consecutive males of infertile couples, 269 (36.6 ± 4.4 years) without genetic abnormalities were studied. All men underwent, during the same day, an evaluation of:
- Clinical characteristics,
- Scrotal and transrectal colour-Doppler-ultrasound (CDUS), before and after ejaculation,
- Biochemical parameters
- Semen parameters, including semen interleukin 8 levels (sIL-8)
- Erectile function: IIEF-15-erectile function domain
- Ejaculatory function: Premature Ejaculation Diagnostic Tool (PEDT)
- Prostate-related symptoms: NIH-CPSI and IPSS
- Psychological traits: Middlesex Hospital Questionnaire (MHQ)

Results:
1) Among semen parameters: only positive association between PRL and ejaculate volume, even adjusting for age, total testosterone and TSH (Fig. 1A)
2) In a logistic ordinal model, adjusting for the aforementioned confounders and ejaculate volume, PRL was negatively associated with delaying ejaculation, according to PEDT#1 score (Wald=4.65, p<0.05) (Fig. 1B).
3) Among scrotal and transrectal ultrasound features: positive association between PRL and seminal vesicles (SV) volume and inhomogeneity, before and after ejaculation, and with deferential ampullas diameter. (Fig. 2, A-D)

Associations with PRL confirmed in nested 1:1 case-control analysis (Table). (case patients: subjects with PRL levels below 140 mU/L, which predicts a SV total volume below the median value of the cohort)

No associations between PRL and other clinical parameters.

Conclusions.
- For the first time, this study extends the concept of a trophic effect of PRL on male accessory glands from animals to humans.
- We report a positive association among PRL and ejaculate and SV volume, before and after ejaculation.
- Low PRL is associated with a lessened ability to control ejaculation.

Table 1. Comparisons between subjects with prolactin (PRL) < 140 mU/L (case patients) and age, total testosterone, TSH matched controls. Data are expressed as mean ± SD or median (quartiles) when appropriate, and as percentages when categories. TSH, thyrotropin-stimulating hormone; PEDT, Premature Ejaculation Diagnostic Tool (Symonds et al., 2007); SV, seminal vesicle; CDUS, colour-Doppler ultrasound.