Winning talk spotlights pioneering fertility study

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Reproductive technologist, Delia Androni, from Cambridge IVF, received the Iwan Lewis-Jones Memorial Prize for the best oral presentation in andrology at Edinburgh's Fertility 2020 Conference.

Delia, 24, impressed senior scientists with study results that establish the optimum moment for a common and cost-effective test – called peroxidase staining – to be deployed on semen samples with the aim of differentiating seminal white blood cells from other ''round cells''.

It needs to be done when round cells are at a very specific threshold number (?1.0M RC/ml of semen) and gives at least a 95 percent accurate diagnosis of leukocytospermia. It is the name given by the World Health Organisation (WHO) to a defined number of white blood

cells (? 1.0M WBC/ml of semen), which are considered a possible risk factor for male subfertility.
The work, which follows years of controversy around what threshold values to use for peroxidase staining and leukocytospermia diagnosis, follows the semen analysis of 530 men referred to Cambridge IVF, which is part of Cambridge University Hospitals NHS Foundation Trust.

Delia said: “Male infertility is one of the main causes behind millions of couples’ failed efforts to conceive and its accurate diagnosis is dependent upon a thorough microscopic examination of the man’s semen.

“Among round cells, white blood cells carry the most significance because their increased levels are considered a sign of urogenital inflammation and infection.
“To our knowledge, this study is the first to establish a round cell threshold value above which peroxidase staining can be performed with at least a 95% chance of an accurate diagnosis of leukocytospermia.

“We also observed a significant reduction in sperm count when white blood cells reach and exceed the WHO proposed leukocytopsermia threshold. This further highlights the importance of accurately diagnosing leukocytospermia during the management and treatment of subfertile men’’

Co-authors of the research paper included service lead and consultant embryologist Stephen Harbottle, andrologist Ruth Harman and reproductive technologists Elisa Ferraro, Grasso Matteo and Joanne Goody.

Professor Iwan Lewis-Jones was a national lead in the field of andrology and training junior doctors in fertility medicine. A yearly memorial prize for young scientists was established following his death in 2016.

Stephen said: “We are incredibly proud of the team’s work and delighted that Delia’s excellent presentation has been recognised in this way. It draws valuable attention to findings which set a course for more accuracy of diagnosis and further research.

“Every successful study is another step towards greater understanding and helping couples achieve their dream of starting a family.”

- Peroxidase staining is a rapid method of round cell differentiation, commonly used in andrology laboratories, which stains peroxidase positive cells making them easier to identify. The presence of leukocytes, detected by peroxidase test in semen, can be a good indicator of infections in the male genital tract.