Webtrack Letters to the Editor

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Consensus workshop on advanced diagnostic andrology techniques

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It is with some reluctance that I have undertaken to report on the Consensus Workshop on Advanced Andrology, for several reasons.

The first and major reason is the title of the workshop suggesting that it concerns andrology whereas, in reality, it propagates views on particular techniques of semen analysis. Andrology is a medical specialty, performed by medical doctors who take care of men with, among other things, inadequacy of their reproductive system. Laboratory techniques are commonly performed by biologists, who may be perfectly familiar with the manipulation and investigation of gametes, both spermatozoa and oocytes, but their competence is neither andrology nor gynaecology. I am afraid that creating confusion between andrology and biology of semen analysis is part of a European Society for Human Reproduction and Embryology (ESHRE) strategy, which aims at restricting andrology to no more than semen analysis (either basic or so-called advanced).

The second word in the title is ‘advanced’. Advancement implies the notion of progress, which suggests that new, better, and more useful methods are being considered. It was clear from the bulk of available publications, and has been confirmed by the consensus workshop, that the techniques which are discussed do not contribute much to ‘progress’ in the management of male infertility. Hence, it would have been preferable, and more honest scientifically speaking, to describe the tests of semen analysis as ‘complementary’ rather than advanced.

In spite of the preceding, I do appreciate that the principal contributors have made an important effort to situate the different methods in relation to their potential or alleged benefits, albeit sometimes by means of excessive self-citation (e.g. Oehninger citing Oehninger as many as 14 times). The latter casts doubt on the universal applicability of certain techniques, and on objectivity in general. In fact, the essence of published studies is that they come to mostly negative conclusions, especially when more than one centre is applying (or attempting to apply) a particular technique, and almost certainly when larger numbers of cases have been included. This seems to be true for most, if not all, of these ‘advanced tests’ and it explains why so few, if any, centres, except the ones that have developed the tests, continue to apply them. As a matter of fact, the often repeated conclusion that ‘more studies are needed, using protocols which are better standardized’ was perfectly predictable. The example of the zona-free hamster oocyte test is typical, and exactly the same conclusion has already been drawn at a World Health Organization (WHO) workshop on this technique in 1985.

It is disturbing to read statements relating to the ‘diagnosis in andrology’ (general conclusion section) when referring to nothing more than the descriptive results of laboratory techniques. This highlights the misconception being cherished by (some) biologists working in gamete laboratories, who apparently confuse their field of interest with andrology. The diagnosis of the pathology causing impairment of sperm quality and function is in the male producing the semen, and should be assessed as described in the WHO manual for the investigation of the infertile couple (Rowe et al., 1993).

By definition, consensus statements are a melting pot of personal and commonly empirical opinions, but they do create an impression of objectiveness and scientific power. The careful and often extensive description of mechanisms involved in, e.g. the acrosome reaction, strengthen the optimistic impression of a firm scientific basis. In reality, many laboratories have abandoned these ‘advanced’ techniques as soon as they realized that the results were either poorly reproducible, and/or inconclusive, and/or irrelevant for patient and couple management. For example, a laboratory in The Netherlands which was created to perform the zona-free hamster oocyte test in a centralized manner, had to close its doors quite rapidly after the initiation of its activities, not because it performed the test inadequately, but rather because of the obvious lack of relevance of results for clinical management.

I conclude that, except for research purposes, none of the ‘advanced’ tests described in this excerpt has proven to be of any higher value than correctly performed conventional semen analysis, with respect to improving the discriminating power between fertile, subfertile, and infertile semen, to predicting the outcome of particular treatment, or to detecting the pathological cause of sperm impairment. In contrast, it is complementary cytological, biochemical, immunological, and bacteriological methods which can be performed more easily, with greater reproducibility, and at lower cost that needs to be introduced as part of ‘basic’ semen analysis. The implementation of the latter tests within the complete investigation of the male partner will reveal factors of relevance to the diagnosis, prognosis, and management of the infertile couple, improving its success rate and cost-effectiveness.

References

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Dear Sir,

The document entitled *Consensus workshop on advanced diagnostic andrology techniques* was published in *Human Reproduction* and on Webrick, September 6, 1996. A response from Professor F. Comhaire regarding this document was published on Webrick, December 6, 1996.

Professor Comhaire’s response begins with an incorrect citation of the document’s title and then proceeds to criticize all aspects of the paper. Because we feel that his comments are unjustified, inaccurate and therefore potentially misleading, we would like to reply.

‘Andrology’, derived from Greek, means ‘the study of the male’; in current usage, it particularly refers to the study of male reproduction and, as such, it involves both clinicians and scientists. Although some would like to restrict it to a medical speciality only, this is not a universally accepted definition. To investigate, evaluate and diagnose male reproductive dysfunction requires the complementary skills of clinicians and scientists.

Under discussion in the workshop were a number of sperm function tests, most of which utilize spermatozoa separated from seminal plasma and placed into culture medium. Therefore, these could not be considered techniques of semen analysis, which by definition is restricted to the examination of semen, i.e. the entire ejaculate. These tests are considered to be ‘advanced’ (meaning beyond the basic) because they require more input, expertise and resources than techniques used for basic semen analysis. As explained in the original document, the tests discussed were those identified in the *World Health Organization manual (WHO, 1992)* as ‘research tests’. In the workshop, we considered whether any of these approaches give biologically relevant information beyond that obtained using conventional semen analysis. The consensus was that some are useful, others not. For the former, we then proposed standardized protocols so that results obtained in different laboratories would be comparable. At present, the existence of multiple protocols for individual sperm function tests mitigate against inter-laboratory comparisons.

The individuals who participated in the workshop included both clinicians (‘gynaecologists’ as well as ‘andrologists’) and scientists. Our ability to discuss the various tests and then reach an agreed consensus represents the same interaction and co-operation needed to allow the clinician to reach an accurate and meaningful diagnosis of the male with reproductive dysfunction. In many instances the pathology of male infertility is occult and sperm function tests may reveal physiological defects that would otherwise go undetected.

Finally, we take issue with Professor Comhaire’s comments regarding ‘an ESHRE strategy, which aims at restricting andrology to no more than semen analysis (either basic or so called advanced).’ Several years ago ESHRE promoted the establishment of special interest groups which reflect the particular areas of interest of ESHRE members. The activities of the ESHRE Andrology Special Interest Group are driven by the members of the Special Interest Group (SIG) (including Professor Comhaire); they are not dictated by ESHRE. Initially, various possible activities were considered by the Andrology SIG and it was decided that the promotion of improved and standardized basic semen analysis in the laboratory was urgently needed; furthermore, we could begin to address this fairly rapidly. We have now developed a programme of Basic Semen Analysis Courses; these are organized by our members in many different countries and follow an ESHRE Andrology SIG - approved standardized syllabus. Now that these courses have been established, we are turning our attention to other areas. Topics addressed by Precongress Courses, past and future, include Gamete Donation in Europe, Controversies in Andrology and Toxicology and Andrology; in conjunction with the Reproductive Surgery SIG, we are organizing a clinically-oriented Workshop on Sperm Recovery Techniques. We have also developed a working relationship with the European Academy of Andrology (EAA) and plan to work together to strengthen the position of Andrology, both clinically and scientifically, in Europe. We feel that the consensus Workshop, on which our document is based, was consistent with that aim and we regret that Professor Comhaire did not attend and contribute his ideas and opinions.

References


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