

SMW Award 2001: Cell-free fetal DNA in maternal plasma allows non-invasive prenatal identification of fetal Rhesus D status and sex

The publishers and editorial staff of the Swiss Medical Weekly are glad to announce the winner of the Swiss Medical Weekly Young Investigator's Award 2001:

Dr Xiao Yan Zhong of the Frauenspital Basel is the winner of the Prize for the following work:

Zhong XY, Holzgreve W, Hahn S. Risk-free simultaneous prenatal identification of fetal Rhesus D status and sex by multiplex real-time PCR using cell free fetal DNA in maternal plasma. Swiss Med Wkly 2001;131:70-4.

15% of pregnancies are at risk for haemolytic disease of the fetus. Furthermore, almost 150 X-linked genetic deficiencies have now been characterised, increasing the need for prenatal sex determination in pregnancies at risk for such a disorder.

Current methods for detection rely on obtaining fetal tissue invasively by amniocentesis or chorion villus sampling. The need for development of risk-free methods in prenatal diagnosis is thus obvious.

Various authors and also the group of the prize-winner have succeeded in determining the fetal Rhesus D status and fetal sex from single fetal cells isolated by micromanipulation from enriched maternal blood using single cell multiplex PCR. Unfortunately this method is technically very demanding and has a low sensitivity.

Based on the recent observation that cell-free fetal DNA is present in maternal blood, the authors have attempted to assess the Rhesus D status and sex of the fetus in cell-free maternal plasma.

For this purpose the PCR assay has had to be refined using the new development of real time PCR. The multiplex real time assay, which the group has developed, allows simultaneous examination of multiple fetal loci on cell-free plasma DNA.

The first results on 34 patient samples are exciting. The potential of this methodological improvement lies in the reduction of the number of invasive procedures and also in the prevention of unnecessary prophylactic treatments.

The complete text can be read on the Internet at the following website: http://www.smw.ch/set_award.html

We congratulate Dr Zhong and her colleagues Dr Hahn and Professor Holzgreve for this achievement and also take the opportunity to thank the other authors for their high-quality submissions for this award.

The Swiss Medical Weekly has appeared as an English language publication since January 2001 with the aim of becoming one of the leading European medical journals. Consequently the Award for 2002 will be open to entries from all over Europe. Papers are already being accepted as entries for the Award (exact details can be found at our website <http://www.smw.ch>).

We look forward to being able to continue with the SMW Award as part of the new Swiss Medical Weekly, so much a part, as it was, of the tradition of the *Schweizerische Medizinische Wochenschrift*. May the Award become an important institution in the landscape of European medical journalism. We await your submissions for next year's award with pleasure.

The many reasons why you should choose SMW to publish your research

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