Preliminary data on age-related oxidative modifications to uterine proteins

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INTRODUCTION

In the recent decades there has been a trend to delay childbirth, which is giving rise to numerous infertility problems. It is believed that these are caused by ovarian and uterine ageing: the egg’s viability (fecundability) and the uterus’ fitness for nurturing the embryo are heavily stunted in reproductively aged women.

The objectives of this project are to:

- Assay age-related total protein expression changes
- Evaluate age-related changes in protein carbonylation at the placental bed.

In the current work we aimed to optimize protocols for detection and immunoprecipitation of carbonylated proteins in placental bed samples.

METHODOLOGY

I In this study samples of uterine tissue was collected from women ranging from 22 to 41 years old. Samples were homogenized and quantified using the Bradford method. SDS-Page and Western-blotting techniques were used to assay protein expression using antibodies for desmoglein-1, plakophilin-1, fibrinogen-α and β. Immunoprecipitation allowed to isolate carbonylated proteins through derivatization with DNPH and subsequent incubation with anti-DNP antibody. Immunoprecipitated samples were then submitted to Western-blotting for detection of fibrinogen-α.

RESULTS

Western Blotting

![Western Blot](image)

Fig.1: Immuno-detection of desmoglein-1, plakophilin-1 and fibrinogen-β in placental bed samples.

CONCLUSIONS

✓ The western blotting conditions for detection of desmoglein-1, plakophilin-1, fibrinogen-β and fibrinogen-α have been successfully optimized.
✓ Immunoprecipitation has been successfully optimized and performed.

FUTURE PERSPECTIVES

Following this, total and carbonylated proteins will be quantified and correlated with women’s age. The involvement of these proteins in the placental bed generation will be considered.

REFERENCES