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SUBCUTANEOUS SPACE POSSESSES THE ABILITY FOR FETAL UROGENITAL SINUS TO GROW THE MATURED ORGAN.

Hypothesis / aims of study
To develop a novel experimental model of the subcutaneous transplantation of fetal UGS and seminal vesicle into athymic male rats for the pathophysiological investigation of the normal and developing prostate and seminal vesicle.

Study design, materials and methods
Fetal UGS and seminal vesicle obtained from 20-day male rat embryo, and the extracted tissues were transplanted into 7-week old athymic male rat subcutaneous. We investigated that the survival ratio of transplanted tissues, measured the weight and inspected the histopathological and immunohistochemical findings at 2, 4, 8 and 16 weeks after transplantation. We prepared 2, 4, 8, and 16 weeks old male rats, use it as a control animal.

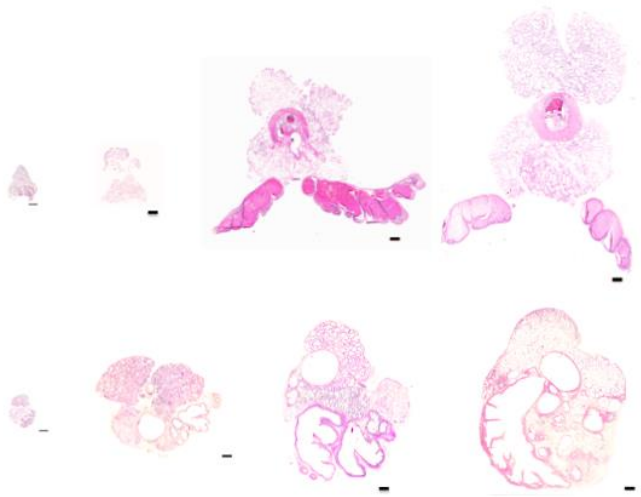
Results
Almost all the transplanted fetal UGS and seminal vesicle were survived under the skin (Table 1), and the tissue weights were increased over time after transplantation. The histopathological observations (Fig. 1) and immunohistochemical analysis of cytokeratin 5, cytokeratin 8 (Fig. 2) and p63 revealed that the morphological changes in the tissues were in accordance with the features of normal prostate and seminal vesicle development. The resemblance in the immunohistochemical localization pattern changes in androgen receptor to that observed in the normal differentiating rat prostate and seminal vesicle were also noted.

(Table 1)

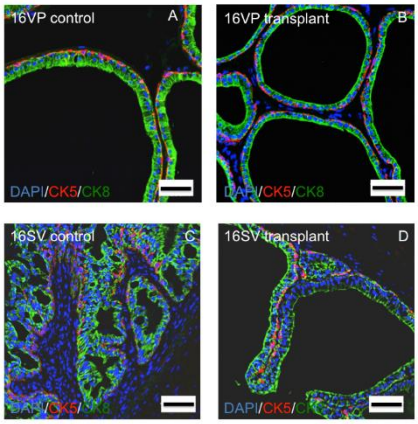
	Residual tissue/Transplanted tissue(%)
2weeks	11/12(91.7%)
4weeks	9/12(75%)
8weeks	7/8(87.5%)
16weeks	8/8(100%)

Survival ratio of transplanted tissues.

(Fig. 1)



Histological findings: Upper side is a normal prostate and seminal vesicle extirpation from 2, 4, 8 and 16 week old male rat, and lower side is a transplanted tissue at 2, 4, 8 and 16 weeks after transplantation. Under bar= 1mm
(Fig. 2)



Immunohistochemical findings of cytokeratin5 and cytokeratin8 of 16 week old normal and transplanted tissues after 16 weeks. VP: ventral prostate, SV: seminal vesicle, Under bar= 50μm

Interpretation of results

Subcutaneous transplanted tissues possess the same characteristics as normal prostate and seminal vesicle.

Concluding message

We conclude that the subcutaneous space provides a appropriate microenvironment for fetal UGS and seminal vesicle cultivation.

Disclosures

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