

Effectiveness of Trucut biopsy needle on testicular sperm extraction (TESE) and the outcomes of TESE-ICSI

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INTRODUCTION :

Objective: To assess the usefulness of testicular tissue and sperm collection using Trucut biopsy needle when testicular biopsy and TESE-ICSI.

METHOD(S) :

Design: A 2- years Evaluation of testicular sperm collection with Trucut biopsy needle.

Setting: Suzuki's Memorial Hospital, Iwanuma, Japan.

Patient(s): 56 males with azoospermia undergoing testicular biopsy and 12 infertile couples given TESE-ICSI treatment following testicular biopsy.

Intervention(s): Testicular sperm collection using Trucut biopsy needle under intravenous anesthesia during testicular biopsy and TESE.

Main Outcome Measure(s): Serum FSH, LH and testosterone levels. Etiological factors in azoospermia. Pathological research of testicular tissue. The presence or absence of testicular sperm in testicular tissue collected by Trucut biopsy needle. The rates of pregnancy, implantation and miscarriage of TESE-ICSI and ICSI using ejaculate sperm.

RESULT(s) : 54%(30/56) of azoospermic men and 80%(4/5) of obstructive azoospermia could obtain testicular sperm by testicular biopsy using Trucut biopsy needle. Furthermore, 82%(27/33) of azoospermic men whose testicular sperm was obtained revealed that serum FSH, LH levels were under 14mIU/ml and 7mIU/ml respectively. Serum FSH and LH levels were significantly lower among those whose testicular sperm was collected, but serum testosterone level was no significant difference. Pathological examination of testicular tissue collected by testicular biopsy and serum testosterone level showed an unexpected presence of testicular sperm. When TESE-ICSI were performed, testicular sperm could be collected through TESE using Trucut biopsy needle in all but one. Sixteen TESE-ICSI cycles were performed and two of five couples who achieved pregnancy gave birth to a live singleton baby. Pregnancy rate was no significant difference between TESE-ICSI and ICSI using ejaculate sperm. But, abortion rate was higher than ICSI using ejaculate sperm. All testicular biopsies and TESE-ICSI were performed under intravenous anesthesia and it revealed no side effects.

CONCLUSION(S) : Testicular biopsy and TESE-ICSI using Trucut biopsy needle are effective method for testicular examination and testicular sperm collection of azoospermic men.