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RESEARCH ARTICLE

Ovary Transplantation Without Angioanastomosis In Bitch

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Abstract

To overcome on increasing sterile animal cases as well as cancerous patients, the study was achieved in eight mature bitches, the ovary was implanted without angioanastomosis. After one month histopathological changes was showing such as necrosis, inflammation and ischemia after transplantation without vessels anastomosis, ovarian duct was unchanged histologically, the bitches were examined by ultrasonography, the ovary after transplantation was showed active which contain primary and secondary follicles intra implanting ovary in recipient bitch.

INTRODUCTION

Ovaries are a part of reproductive and endocrine system which play main role in a production of mammalian and sexual activity. Transplanting ovary are developing continuously at the present time, the researchers were found the ovaries which a suitable place for recovery of reproductive function and endocrine gland. The transplantation of organs are modern medical technology, and management of medical aspect is represented in body reject an implanting organ problems, lead to organ transplantation failure that necessarily to remove implanting organ from receipt body, therefore, should be decreased rejection cases by serological test to detect histo- compatibility as well as immunodepressant drugs were used (1). Ovary implanting that occurred in 2004 involved unilateral ovaroectomy from women before chemotherapy and legalization, the ovary implanted in same women after surgery and chemotherapy course, implanting of ovary tissue before transplantation of ovarian encouraged the ovary to angiogenesis, if the blood which provide the area was inadequate, the ovary didn't respond to hormone to produce ova (2). Ovary transplantation method include two steps ; re-implanting tissue pieces from tissues which were reservoir previously and after three days , the ovary implanted in body, the researchers were showed the transplantation of tissue pieces which encouraged revascularization and to pave the way for ovary function in short period, and after four months the ovary product the natural ova and the mother was gestated after two months from the first period of production of ova, this study was documented in *Europe Association of Creative and Embryology* at Amsterdam. The transplantation of ovary without vascular anastomosis product series of growth factors such as VEGF, TGF-β1 and gonadotrophins whose play role the create new blood vessels (3), these stimulators due to the deficiency implanting ovary and gonadotrophins essentially (4). Gentilia transplantation specially ovaries increase and there are successful case after transplantation of ovary tissue before ovary and immunosuppression play role in future of organs transplantation(8). The experimental study of ovary transplantation although female rabbit at 1863 by Baul Bert and reported by Crobac at 1895 (5). There are many risk or warning about ovary transplantation whose related by congenital anomalies but there is no any risk are evident that to present time (6) there are two risks an organ transplantation ; histocompatibility and immunosuppressant, as well as the transplantation of ovary without vascular anastomosis may ischemic if the organ dosn't provide sufficient blood (7).

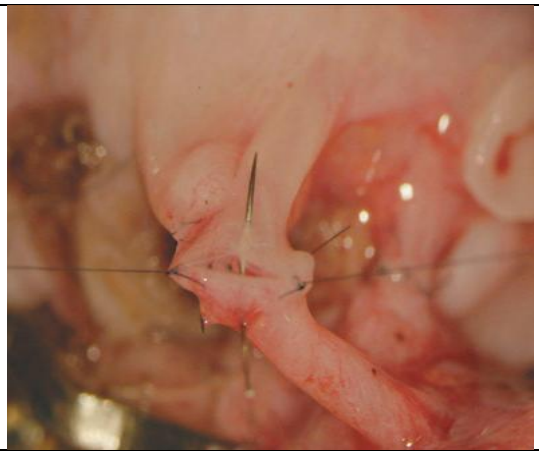
Materials and Methods

Materials

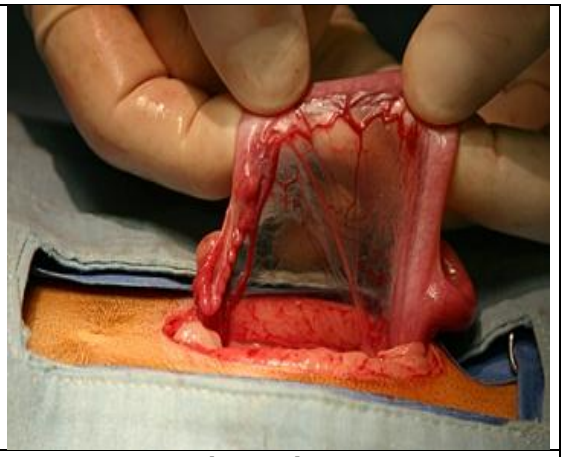
Eight female dog (bitches), they weight 25-30 kg, live in same condition, the animals were divided into two group ; donor group that consist from four animals and recipient group that consist from four animals. Each animals were checked medicinally to ensure from their healthy, normal saline NaCl 0.9% to maintain the ovary post surgery. All animals were ovarictomized to release the ovary under aseptic technique (13) , animals were anaesthetized by ketamine and xylazine (14), the incision of surgery at lina alba above pubic region when the animal on the dorsal position, carefully the ovaries were raised , the periton and other structure were sutured except the recipient bitches leaved to prepare the ovary transplantation. Donor bitch ovary was maintained in normal saline 0 .9% NaCl to prepare transplantation in recipient bitch which was under general anesthesia post ovariectomy and implant other ovary by oviduct (fallopian duct) anastomosis without blood vessel anastomosis under surgical microscope and broad ligament suture (15).

Ovary measurement of bitch

Lena alba incision



Suture of donor oviduct



Bitch genital system

Transplantation of ovary from donor to received bitch

Ovarctmoized received bitch

A course of antibiotic and antihistamine as well as corticosteroid to reduce immunity to prevent body reject to implanting ovary (16). Histopathology was done after 30 days of transplantation (17).

Results

1- Histopathology images

Figure (1) histopathological image of oviduct tissue of a receipnt bitch after ovary transplantation, show normal tissue , stain by H&E X40

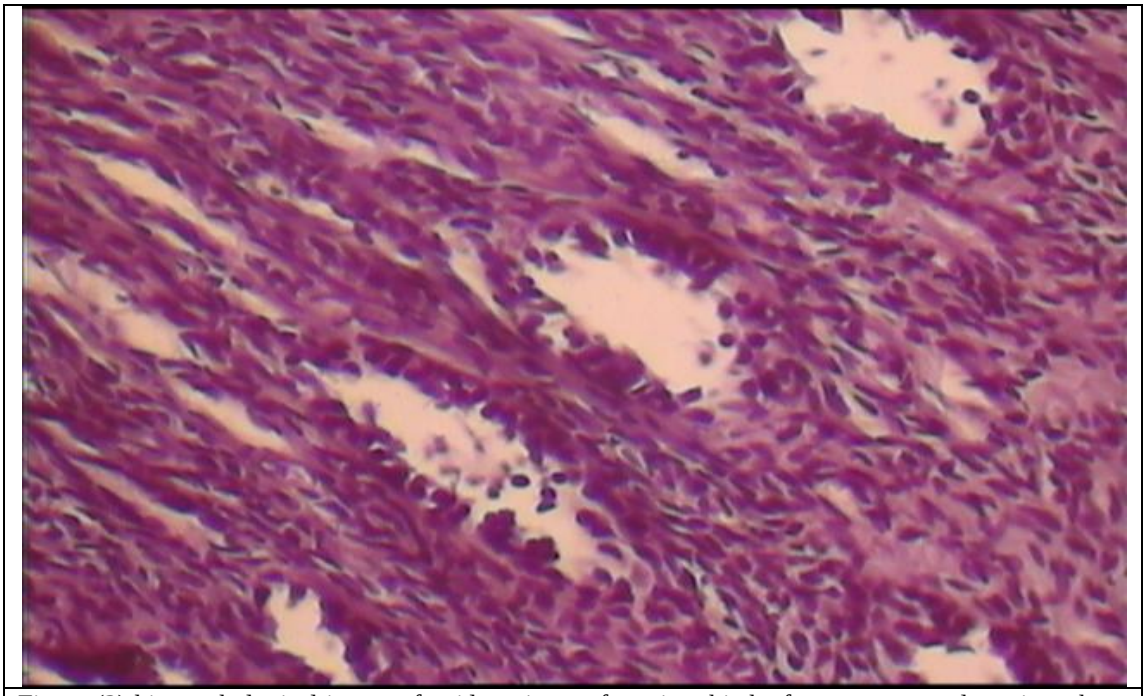


Figure (2) histopathological image of oviduct tissue of receipnt bitch after ovary transplantation, show normal tissue , stain by H&E X40

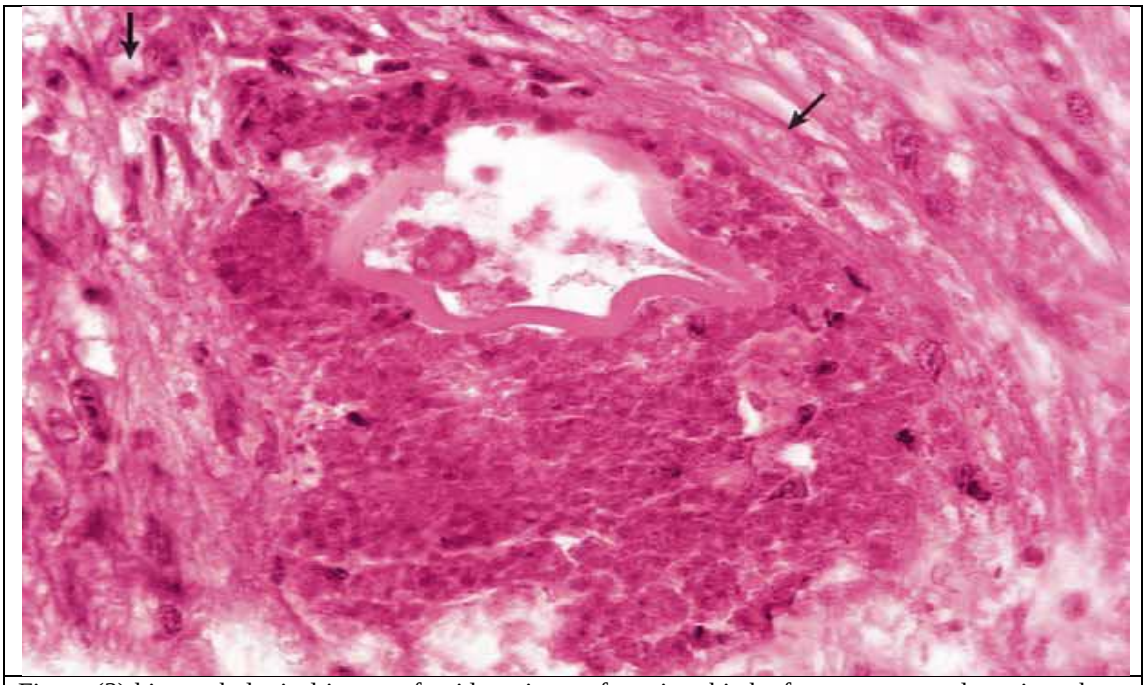


Figure (3) histopathological image of oviduct tissue of receipnt bitch after ovary transplantation, show necrosis of tissue , stain by H&E X40

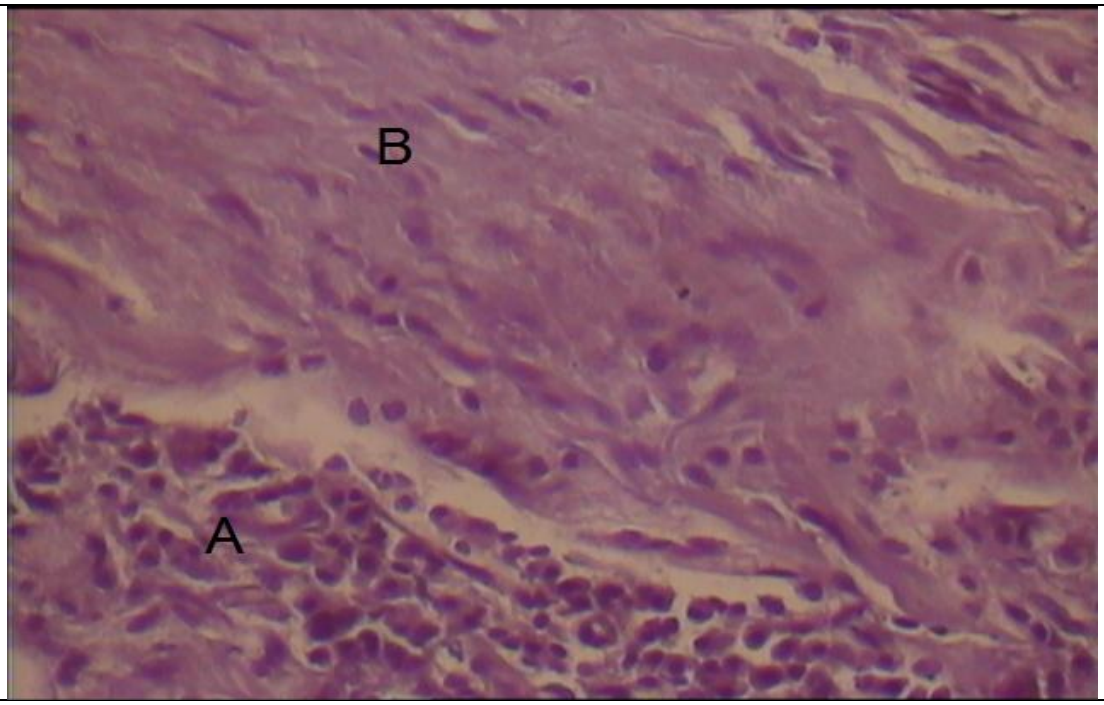


Figure (4) histopathological image of oviduct tissue of receipnt bitch after ovary transplantation, show inflammation (B) and necrosis (A) tissue , stain by H&E X40

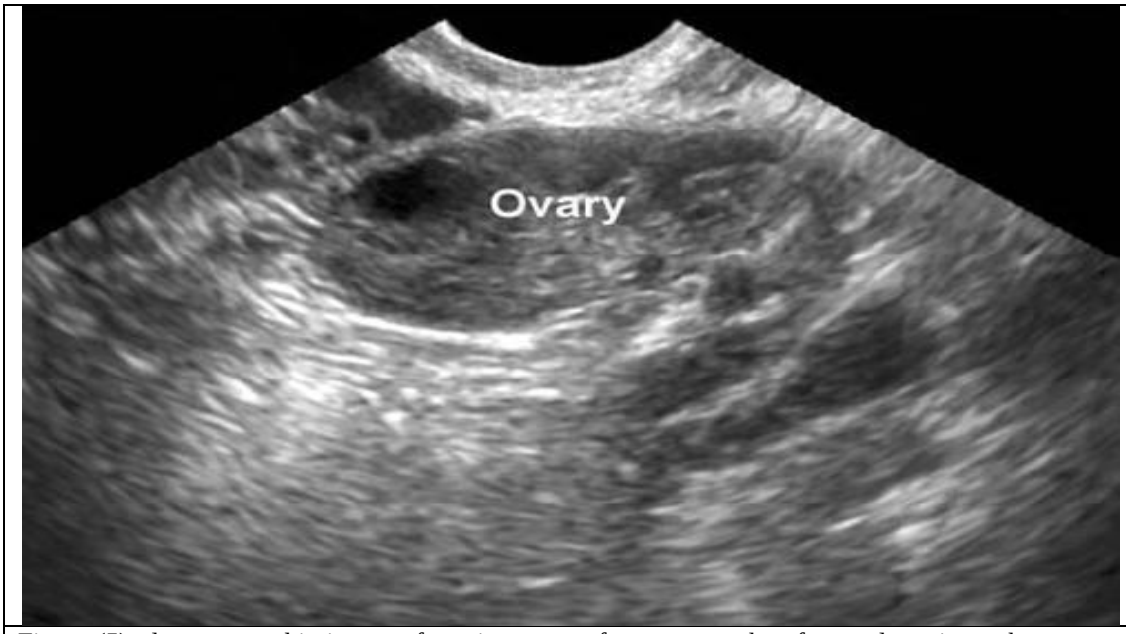


Figure (5) ultrasonographic image of receipt ovary after two months of transplantation , show ovary ,primary and secondary ovaral vescules

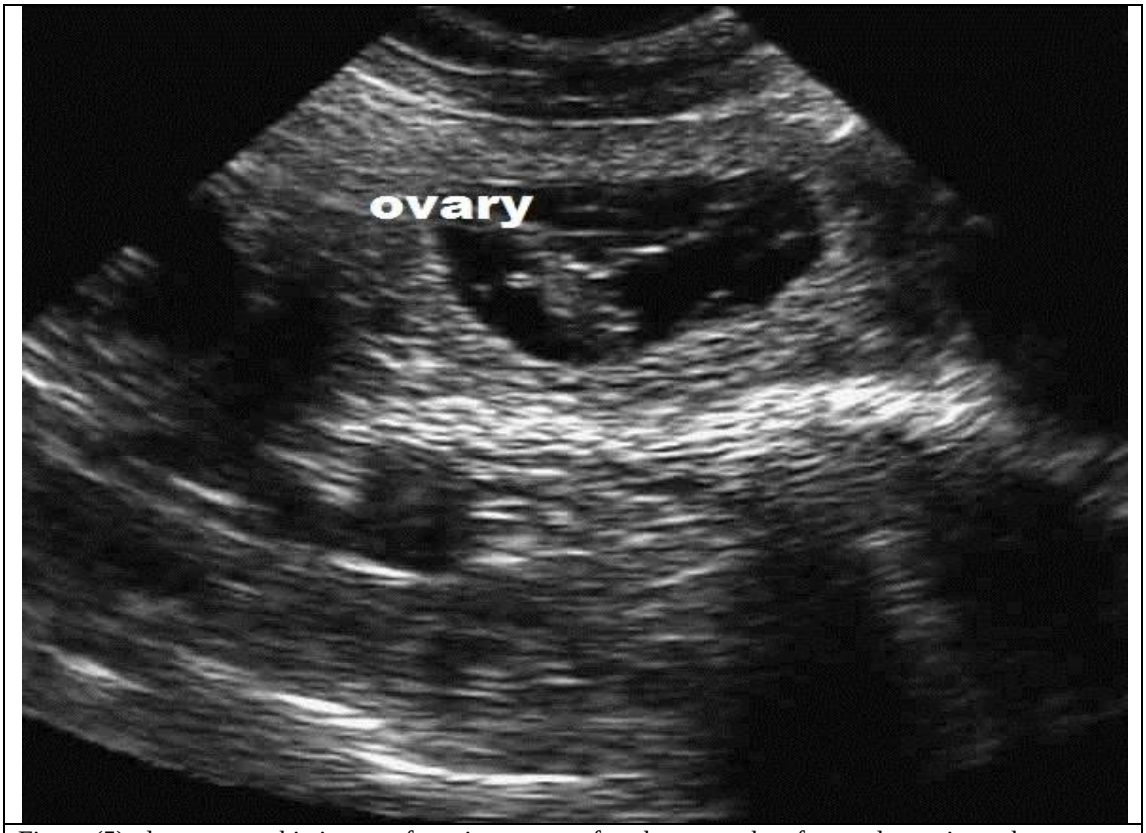


Figure (5) ultrasonographic image of receipnt ovary after three months of transplantastion , show ovary ,primary and secondary ovaral vescules

Discussion

Most of ovary vesicles tissues are survived post transplantation otherwise maintain of their morphology, histopathological images were showed necrosis in primary ovarian pool whereas return back appointed primary survival vesicles on the life , these study agree with other researchers (5,6,7), different volume vesicles are survived after transplantation examination in spite of inflammation signs were founded, there were many necrosis, inflammation and infarction due to transplantation without blood vessel anastomosis, present study don't to estimate blood vessel anastomosis and agree with (9). The ovary tissue didn't change during normal saline maintenance due to the short time in transplantation from donor to recipient and immunosuppression drug while other researchers were used lypholization technique, the transplantation of ovary tissue before encouraging to new vascularization due to the rapprochement of ovary tissue ad superficial blood vessel which surrounded it (10). The transplantation of ovary without blood vessel anastomosis to survive and maintain on ovary morphology without damage, these evident by ultrasounography (10) witch disagree with other (12).

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