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SPONTANEOUS ENDOMETRIOSIS IN RHESUS MACAQUES: A USEFUL PRECLINICAL MODEL

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Endometriosis is a common gynecological women's health problem. It is a condition that causes painful periods, chronic pelvic pain and subfertility. The goal of our studies is to establish and exploit an appropriate animal model for this disease. The need for this model is to investigate the pathophysiology and etiology of the disease. The establishment of the model will be important to overcome the difficulties with controlled experiments in humans and to provide a tool to study risk factors, prevalence and solve many of the practical problems associated with studying the disease.

Endometriosis is characterized by the presence of tissue resembling endometrium to abnormal location within and outside the uterus. Implantation and growth of endometrial tissues within the peritoneal cavity after retrograde menstruation is a widely accepted pathogenesis. The etiology of this disease is unclear and the treatment options are limited. Rhesus macaques are phylogenetically very close to humans and have similar reproductive anatomy, physiology and similar menstrual cycle characteristics. The presence of spontaneous endometriosis in rhesus macaques makes them an attractive animal model.

Based on clinical signs, echography, gross and microscopic findings we were able to detect the diseased animals from our colony. The histological lesions were consistent with the lesions observed in human patients. Histopathological, immunohistochemical and genetic analyses were performed. A genetic trend (MHC Class 1) was found in a group of selected rhesus macaques with endometriosis from our Primate Centre.

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