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Role of artificial intelligence in the diagnosis and management of Endometriosis. The prospect of the future

Abstract:

Endometriosis affects approximately 10% of women worldwide, causing significant pains, infertility, and reduced quality of life. Despite its prevalence, the condition is notoriously underdiagnosed, with an average delay of 7-10 years between symptom onset and diagnosis. Current diagnosis and treatment modalities are invasive, time-intensive, and often inconsistent. Recent advancements in artificial intelligence (AI) offer promising solutions to these challenges, leveraging the power of machine learning (ML), data analytics, and image technologies to transform the understanding and management of endometriosis. AI- powered algorithms demonstrated high accuracy in detecting endometriosis through medical imaging, outperforming traditional diagnostic methods. Predictive models identified high-risk patients using clinical and genetic data, enabling earlier intervention. AI-based virtual assistants improved symptom tracking and patient engagement. Furthermore, machine learning facilitated the discovery of novel biomarkers and drug targets, enhancing personalized treatment approaches. In conclusion, Artificial intelligence is revolutionizing the field of endometriosis by addressing critical gaps in diagnosis, treatment, and research. With the presence of robust datasets, inclusive algorithms, and interdisciplinary collaboration among clinicians, researchers, and technologies, AI holds immense potential to reduce diagnostic delays, improve therapeutic outcomes, and enhance the quality of life for endometriosis patients.

Biography

Mr Mohamed Hosni is a Consultant Obstetrician and Gynaecologist at London Northwest University Hospitals, with over 20 years of experience. He is a very experienced laparoscopic surgeon, with international reputation in minimal access surgery and endometriosis. He has a broad clinical research background and has collaborated with numerous doctors and scientists on different projects in Obstetric and Gynaecologic research. He has presented both Nationally and Internationally, have several peer-reviewed publications in scientific journals. He completed MD, MSc, and he is currently a member of the Royal College of Obstetricians and Gynaecologists. He is a firm believer in a patient-centred approach, personalized on an individual basis. He is entirely dedicated to his profession. He places a significant importance on taking time to listen to each patients' specific needs and providing them with a thorough explanation of their treatment options.