In the next section, “Types and Locations of Endometriotic Lesions,” the authors describe the three primary types and locations of endometriotic lesions: superficial peritoneal, endometriotic cysts, and deep infiltrating endometriosis (DIE). Superficial peritoneal lesions involve the peritoneum, the tissue that lines the abdominal cavity, and are usually asymptomatic. However, if large enough, they can cause chronic pelvic pain. Endometriotic cysts, also known as ovarian cysts, are derived from endometrial tissue and can develop in the ovaries or on the surface of the ovaries. DIE lesions are the most severe subtype and involve the deep structures of the pelvis, such as the uterosacral ligaments and broad ligaments, and can cause severe pain and infertility. The authors emphasize the importance of accurate diagnosis and the need for individualized treatment plans for each patient, as the severity and presentation of endometriosis can vary greatly among individuals.
appears to be dense and brown during laparoscopy. The authors refer to the third type of endometriotic lesion as deep infiltrating endometriosis. Those lesions usually appear on ligaments of the uterus or rectovaginal fascia, which is tissue that separates the vagina and rectum. According to Hsu, Khchikyan, and Stratton, women with deep infiltrating endometriosis lesions may experience bowel symptoms such as diarrhea. Other unusual locations of lesions may cause cyclic hematohoo, or blood in the stool. After their descriptions of the three lesion types, the authors describe five specific ways to diagnose endometriosis.

First, they outline how physicians diagnose endometriosis in the section titled “Clinical Diagnosis.” Generally, a physician will diagnose endometriosis in a clinical setting by taking a complete history of the patient’s symptoms and by conducting a physical examination of the patient. Physicians often look for or ask patients about pelvic pain specifically. A patient may express that pain occurs at various points during the menstrual cycle, such as ovulation, when a mature egg is released from the ovary, which can be connected to endometriosis. The authors also note that different types of endometriotic lesions may be correlated to specific symptoms. For example, a patient with gastrointestinal symptoms may have deep infiltrating endometriosis lesions. According to the authors, such symptoms are helpful in clinical diagnoses for planning further treatment. However, they emphasize that clinical diagnosis may not adequately diagnose endometriosis. They explain that pain is not always a symptom of endometriosis, and a woman with pain may suffer from a different health issue. Also, the authors point out that healthcare professionals cannot identify abnormalities due to endometriosis, such as endometriotic lesions, during a physical examination. Thus, the authors claim that clinical diagnosis has poor specificity or predictive value in the diagnosis of endometriosis.

The authors then move on to a second type of diagnostic method for endometriosis, laparoscopy, in the section “Laparoscopy.” According to the authors, laparoscopy is useful in the diagnosis of endometriosis because the surgical procedure allows physicians to view lesions of the pelvis that may be indicative of endometriosis. As the authors detail, diagnosis of endometriosis via laparoscopy requires that a physician finds endometrial tissue located outside of the endometrium. The physician usually takes a small sample of the tissue, also called a biopsy, to test histologically, or by viewing the tissue under a microscope. According to the authors, approximately half of endometriotic lesions require histological confirmation because lesions can indicate other health issues like inflammatory changes in the pelvis.

Third, in the section called “Imaging,” the authors describe imaging techniques that have been used in attempts to diagnose endometriosis. They assert that there is a limited number of useful imaging techniques for the diagnosis of endometriosis. Specifically, the authors outline three imaging techniques that are used to diagnose endometriosis: ultrasound, magnetic resonance imaging, or MRI, and computed tomography, or CT, scan of the pelvis. In their discussion of ultrasound, which is an imaging method that uses sound waves in order to view organs inside of the body, the authors note that ultrasound is useful in identifying deep infiltrating endometriosis lesions. Ultrasound is also easily accessible and affordable, which may be beneficial for women with endometriosis who face economic barriers to treatment. According to Hsu, Khchikyan, and Stratton, an MRI, while expensive, is more accurate in detecting endometriosis than an ultrasound. Specifically, using MRI, healthcare professionals can diagnose deep infiltrating endometriosis lesions in unusual sites such as the uterosacral ligaments, which are structural tissues that connect the bottom of the spine to the cervix, or rectovaginal fascia, which is the tissue that separates the vagina and rectum. The authors discuss a CT scan of the pelvis as a way to diagnose endometriosis. However, they note that a CT scan of the pelvis does not adequately visualize pelvic organs.

In the section “Serum Markers,” the authors describe a fourth type of diagnosis method for endometriosis. Serum markers are specific components in the blood that physicians can measure to learn about the state of health in a patient. Ideally, serum markers would allow physicians to measure disease activity and monitor improvement in patients with endometriosis, however, researchers have not yet found a serum marker to specifically identify endometriosis. The authors indicate that more research on serum markers is crucial to fully understanding how that particular diagnostic method can impact the treatment of endometriosis.

Finally, in the section “Endometrial Nerve Fibers,” the authors describe the potential for biopsy of endometrial nerve fibers to work as a diagnostic tool for endometriosis. Nerve fibers usually transmit information to different areas of the body. Hsu, Khchikyan, and Stratton state that studies have demonstrated that women with endometriosis have an increased number of nerve fibers in their endometrium. However, according to the authors, the amount of nerve fibers present in the endometrium has not been found to be an adequate type of diagnosis of endometriosis, and researchers are still exploring that topic as of 2019.

In the “Conclusion” section, the authors reiterate that although many cases of endometriosis are predicted in a clinical setting, healthcare professionals often diagnose endometriosis with laparoscopy and histological confirmation. According to Hsu, Khchikyan, and Stratton, non-invasive methods to diagnose endometriosis, such as imaging, may help guide surgical approaches, especially in women with deeply infiltrating endometriosis lesions. They also note, however, that imaging is not as accurate as a diagnosis of endometriosis as laparoscopy. Finally, the authors indicate that researchers must conduct more studies to determine the benefit of serum markers and endometrial nerve fibers as reliable methods for diagnosing endometriosis.

“Methods for the Diagnosis of Endometriosis” has been cited more than one hundred times in later studies about the diagnosis of endometriosis as of 2019. Many of those studies are concerned with the development of new diagnostic tools, including imaging and serum markers, for the diagnosis of endometriosis. As of 2019, there is still no definitive method for diagnosing endometriosis.

Sources

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In 2010, Albert L. Hsu, Izebella Khchikyan, and Pamela Stratton published "Invasive and Non-invasive Methods for the Diagnosis of Endometriosis," henceforth "Methods for the Diagnosis of Endometriosis," in Clinical Obstetrics and Gynecology. In the article, the authors describe how specific types of endometriotic lesions appear in the body and evaluate five methods for diagnosing endometriosis. Endometriosis is the growth of endometrium, the tissue that normally lines the inside of the uterus, outside of the uterus. The authors state that although endometriosis impacts many women, the condition is difficult to identify. They identify laparoscopy, an invasive surgical procedure, as the most accurate diagnostic method. By analyzing the effectiveness of available diagnostic methods, the authors help physicians diagnose endometriosis and increase the quality of life for affected women.

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