WOMEN OFTEN SUFFER from gender-specific ailments that can be magnified in the athletic population. Endometriosis is a condition involving the existence of ectopic endometrial glands and stroma outside the uterine cavity. The abnormal endometrial tissues are usually found growing within the pelvic cavity, on the ovaries, behind the uterus, or on the connective tissues surrounding the uterus. In 1980, it was reported that endometriosis can affect the urinary tract in 1-2% of the affected population. Of this reported percentage, 84-90% of the cases revealed endometriosis on the bladder.

Case History

A 20-year-old White female NCAA Division II intercollegiate volleyball athlete presented her athletic trainer with lower abdominal and pelvic pain as well as point tenderness after having made direct contact with the playing surface during a practice drill. The athlete was immediately removed from practice, and an evaluation was performed to rule out any potentially serious injury.

The athlete had no previous history of injury to the abdomen or pelvic region; however, the athlete did report having a history of appendectomy. Additionally, she reported taking the medication, Seasonale, for dysmenorrheal, and she suffered from menstrual cycles irregularity. During the evaluation, the athlete’s condition progressively worsened, and the primarily complaint quickly became an inability to urinate, despite the sensation of needing to empty the bladder.

Due to the athlete’s increased pelvic discomfort, the athletic trainer’s evaluation was terminated and the athlete was transported to a hospital emergency room for further evaluation and treatment. A series of routine diagnostic tests were performed at the emergency room, which included an abdominal x-ray, complete blood count, and pelvic exam. All test results were negative. A catheter was inserted to relieve urinary retention. The athlete’s condition was diagnosed as urinary retention by the emergency room physician, and a consultation with a urologist was scheduled for two days post injury.

The urinary catheter was removed by the urologist, and the examination findings yielded an uncertain diagnosis involving or relating to either the bladder or urinary tract. Nonetheless, the urologist suspected a gynecological problem, admitted the athlete to a hospital for overnight observation, and a consultation with a gynecologist was scheduled. Following admission to the hospital, the athlete underwent a lower abdominal CT scan and vaginal ultrasound, both of which were normal. The gynecological examination findings, including the medical history, did raise a suspicion of endometriosis, and a diagnostic laparoscopy was recommended for definitive diagnosis. The gynecologist also recommended that the athlete undergo a Laparoscopic Uterine Nerve Ablation (LUNA) procedure, which involves cutting nerves in the pelvis to relieve pain.

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The athlete elected to undergo the recommended laparoscopic procedure, which confirmed a diagnosis of endometriosis. Multiple adhesions were discovered outside the uterus, on the ovaries, and on the bladder, which explained the cause of the urinary retention. The athlete was released from the hospital one day post surgery without complications, with instructions to maintain pelvic rest (sitting) or bed rest and to limit activities for the remainder of the day. A follow-up visit to remove staples was scheduled for the following day at the gynecologist’s office. At one week post surgery evaluation, the gynecologist cleared the athlete for light activity, gradually increasing its duration and intensity daily; however, no participation in volleyball was allowed. A third visit was scheduled for 3 1/2 weeks post surgery.

The athlete began a light running and weight training program under the direct supervision of her athletic trainer five days after the physician’s clearance for activity. On the second day of training, the athlete complained of nausea, abdominal and pelvic pain, and general fatigue. The athlete was instructed to discontinue activity for the remainder of the day. The following day, the athlete telephoned her athletic trainer to report a low-grade fever (99.4°F), for which she had taken Tylenol. The athlete presented same symptoms the next day, at which time her physician was consulted. The previously scheduled third appointment was moved up by two days, and the athlete was instructed not to participate in any physical activity until seen by the physician. When evaluated by the gynecologist, the athlete was asymptomatic for infection and was cleared for to return to normal activities without restrictions. The physician discharged the athlete from further medical care, with instructions to increase activity gradually and permission to return to volleyball activities within three weeks.

The athlete began a conditioning and light weight training program, and within three weeks was playing volleyball without complications. Approximately 3 1/2 weeks following her release, the athlete was struck in the abdomen by a volleyball during a practice drill. The original scenario was presented again, with the athlete reporting an inability to urinate, despite the sensation of need to empty the bladder, which was accompanied by severe pain and point tenderness in the lower abdomen and pelvic region. The athlete was transported to the same hospital emergency room, where the same treatment was administered, and a follow-up visit with the gynecologist was scheduled.

Following the second incident, the athlete expressed concerns about the possibility that endometriosis could affect her sport participation. The gynecologist informed the athlete that participation in contact sports would increase her risk of recurrent episodes, but that endometriosis does not represent a condition that precludes participation in competitive sports. The athletic trainer spent weeks educating and counseling the athlete. Ultimately, the athlete decided to withdraw from volleyball participation for the remainder of the season and eventually forfeited her athletic scholarship by choosing not to play during her senior year.

**Discussion**

Because endometrial tissue acts as if it were located within the uterus, endometriosis creates a problem for menstruating women. The abnormally distributed tissue will continually thicken, break down, and produce bleeding, depending on a woman’s fluctuating hormone levels throughout the month. Because the blood cannot be readily removed from the body, tissues in the surrounding area become irritated and the growth of cysts can occur. These cysts are associated with scar tissue and adhesions that can cause painful menstruation, infertility, and pelvic irritation.3 As many as 10-15% of all menstruating women suffer from this condition, and a definitive cause is unknown.1

**Summary**

Even though endometriosis affects many menstruating women, it rarely affects athletic participation and many athletic trainers and therapists are unfamiliar with the condition. Symptoms of endometriosis include painful menstrual cycles or dysmenorrhea. Other signs and symptoms may include, but are not limited to, infertility, pain in the pelvis, low back or rectal area, and urinary tract symptoms.4,5 Common signs and symptoms are listed in Table 1. Diagnosis of endometriosis can be made in several ways, which may include a pelvic exam, vaginal ultrasound, laparoscopy, or a CA-125 blood test.3 Treatment options are listed in Table 2. Accurate diagnosis and proper treatment of