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A Case Review: Management of Ischialgia in Primary Health Care

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A B S T R A C T

Introduction. Ischialgia is pain in the lower back caused by tension, irritation or compression of the sciatic nerve fibers. The pain is usually felt from the lower back to one or both legs. Ischialgia is one of the most common diseases encountered in primary health care. This disease is also difficult to cure completely, so patients will often return for treatment repeatedly. This article aimed to present a case review as well as management of ischialgia in primary health care.

Case Presentation. A 45 year-old man came to primary health care with low back pain since 1 month ago that radiated to his right leg. The patient has fallen in the bathroom before, but it was a long time ago. Currently the pain comes and goes and interferes with daily activities. The patient was diagnosed with ischialgia and provided with appropriate therapy in primary care.

Conclusion. Patients with ischialgia can be given initial management in primary health care. For definitive treatment, the patient needs to be referred to a specialist, but follow-up therapy can be continued in primary health care.

Keywords: Ischialgia, Low back pain, Radiated, Primary Health Care

1. Introduction

Ischialgia can be defined as pain that is felt from the lower back body along with the legs. Judging from the meaning of the word, ischialgia is pain that is felt along the sciatic nerve. So ischialgia is defined as pain that is felt along the ischial nerve and further along the legs.[1] Pain in the lumbar region can basically be in the form of radicular pain (often), referred pain, non-radiating pain. Patients with radicular pain show low back pain and radicular pain along the sciatic nerve. Definite data regarding the prevalence of ischialgia is still lacking. It is estimated that 5% -10% of patients with low back pain experience ischialgia. The annual prevalence of discogenic ischialgia in the general population is approximately 2.2%. Individual and occupational risk factors have been reported, including age, weight, mental stress, smoking, and exposure to vehicle vibration. Evidence that there is a relationship between ischialgia and gender and activity is still debated.[2]

Ischialgia arises due to stimulation of the sensory fibers where the sciatic nerve originates, namely the posterior roots L4, L5, S1, S2, S3. Irritative lesions can cause ischialgia at a certain level. [1] At the level of the intervertebral disc between L4 to S1, a Herniated Nucleus Pulposus (HNP) can occur which penetrates into the vertebral canal. On the deep surface of the pelvis the ischiadicus nerve can be involved in sacroiliac arthritis or piriformis bursitis. Around the hip joint the sciatic nerve can be involved in entrapment neuritis inflammation. Based on the description above, from the location of the origin of the pain which radiates along the leg, ischialgia syndrome can be divided into 3 groups, namely: [1,2] Ischialgia as a form of primary sciatic nerve neuritis. Ischialgia occurs without being preceded by chronic or subacute low back pain, but rather as a continuation of a general upper respiratory tract infection. Tenderness along the sciatic nerve to the tibial/peroneal nerve. Ischialgia due to "entrapment neuritis" also occurs without accompanying low back pain. Rising pain is a manifestation of rheumatism. This means that ischialgia occurs hand in hand with the hip joint being affected by coxarthritis or bursitis. Ischialgia as a form of radiculitis or radiculo[ati can be caused by HNP or tumors around the L4, L5, S1 and S2 roots. In this case low back pain almost always precedes ischialgia. From an anatomical perspective, ischialgia can occur due to stimulation of the roots that make up the sciatic nerve. Based on this, complaints of pain in ischialgia can be grouped as follows: [1, 2, 3] Ischialgia caused by discogenic lesions is often found in intervertebral disc protrusion. for example HNP. Furthermore, ischialgia is caused by mondiscogenic lesions due to stimulation of peripheral sensory fibers that make up the sciatic nerve. Mechanical include lumbar deformity spondyloarthritis, spondylolisthesis, intaspinal tumors, and lumbosacral spine fractures. Non-mechanical in the form of medical sciatica and sacroiliac arthritis.

Human vertebrae consist of cervical, thoracic, lumbar, sacral and coccyx. The vertebrae that form the lower back are lumbar 1-5 with the intervertebral discs and lumbar plexus and sacral plexus. The lumbar plexus originates from lumbar 1-4 which consists of the iliohypogastric nerve, ilioinguinal nerve, femoral nerve, genitofemoral nerve, and obturator nerve. Next, the sacral plexus emerges from the lumbar4-sacral4 which consists of the superior gluteus nerve, inferior gluteus nerve, sciatic nerve, superior femoral cutaneous nerve, pudendal nerve, and muscularis ramus.[1] The sciatic nerve is a nerve bundle that leaves the lumbosacral plexus and goes to the infrapyriform foramen and exits on the surface of the leg in the middle of the buttock crease. At the apex of the popliteal space, the sciatic nerve branches into two, namely the common perineal nerve and the tibial nerve.[3]

Ischialgia arises due to stimulation of sensory fibers originating from the posterior roots of lumbar 4 to sacral 3, and this can occur in any part of the sciatic nerve before it reaches the back surface of the leg. First risk factor for ischialgia is age . The first attack of low back pain typically occurs between the ages of 30-40 years. The incidence of low back pain will increase with increasing age. Next is Fitness level. Lower back pain more often affects people with poor fitness levels. Furthermore, a diet high in calories and fat combined with an inactive lifestyle can cause obesity. Next is the hereditary factor, where low back pain such as disc disease is reported to have a genetic aspect. [3,4]This article aimed to present a case review as well as management of ischialgia in primary health care.

2. Case Presentation

A 45 year-old man came to Public Health Center Polyclinic as primary care center with main complaint of lower back pain since one month ago. The pain was initially felt in the right waist and then spread to the right leg. The pain increased when the patient walked, coughed or when lifting slightly heavy objects. The patient felt better when lying on his back. Previously, ± 2 months ago the patient slipped in the bathroom and fell down. After falling the patient could stand up and walked again as usual. A month later the patient began to feel that his waist often ached. 1 week ago, the patient brought a family member for a massage, but his waist felt increasingly painful. Because the pain did not heal, the patient came for treatment to the Public Health Center. There was no limb weakness. There was no history of severe headaches. There was no fever. There was no history of exposure. There were also no complaints about urinating and defecating. The patient denied to have the habit of lifting heavy weights.

On physical examination, general status was within normal limits. However, on examination of the neurological status, Laseque's sign was found positive, Cross Laseque's sign was positive, Naffziger's sign was positive, Patrick and contra Patrick's signs were also positive on the patient's right leg. The patient was recommended for a lumbo-sacral X-ray examination and then referred to a neurologist with a diagnosis of ischialgia. Management for patient started with preventive management, namely explaining to patient not to lift heavy loads and increasing consumption of fruit and vegetables. The next treatment that must be considered was promotive therapy by explaining to the patient that the disease cannot be cured, but can be controlled by adopting a healthy lifestyle. The patient's family was also informed about how to give the compress to reduce the pain correctly. Curative treatment for this patient before being referred to a neurologist was mainly non-pharmacological therapy, namely advice on adequate rest and compression by warm water on the waist muscles. Next, pharmacological therapy was given by administering 2x50 mg diclofenac sodium tablets as an analgesic and 3x1 antacid as a stomach protector from analgesic use. After the patient was referred to a neurologist and received definitive therapy. Patient was expected to undergo treatment at the community health center, namely rehabilitative treatment with regular visits to the community health center to assess the effects of the treatment given.

3. Discussion

A 45 year old man came to primary health care with complaints of low back pain since 1 month ago. The pain was initially felt in the right waist and then spread to the right leg. The pain increases when the patient walks, coughs or when pushing. The patient feels better when lying on his back. Previously, ± 2 months ago the patient slipped in the bathroom and fell down. The most important symptoms of ischialgia are low back pain and leg pain that spreads which has caused daily activity problems. Generally, patients can be treated at the primary care level, but quite a few have to be referred to a referral center and require operative treatment. [4] Things that must be paid attention to in the history include: Location of the pain, how long it has been, the onset of the pain, type of pain (cutting, pressing , etc.), spread of pain, intensity of pain, fixed waist, trigger factors, and factors that aggravate the pain. Then activities that cause increased pressure in the subarachnoid such as coughing, sneezing and straining can cause discogenic ischialgia. Next, trauma factors are almost always found except in neoplasms or infections.

Physical examination findings in ischialgia include: a typical gait that is slightly bent and tilted to the side of the painful leg with flexion in the hip and knee joints and feet on tiptoes. This posture aims to prevent pain from occurring, because an upright position will cause pain. Flattened lordosis with limited lumbar spine motility. Scoliosis is temporary with the bonkafitas facing the painful side of the leg. In addition, the buttock crease on the affected side is lower than on the healthy side. This is because the dorsal roots experience compression from the protrusion of the nucleus pulposus resulting in low tone of the gluteal muscles. Another physical examination that can be found is that the Achilles tendon reflex decreases or disappears if the roots between L5 and S1 are affected. Skin sensibility examination usually does not reveal explicit sensory deficits. If HNP has been occurring for a long time, the L5-S1 dermatome can be found to be anesthetic or hypesthetic. Other physical examinations that can be carried out are the Laseque test, cross Laseque test or O'Conell test, Nafziger test, Patrick test and counter-Patrick test.[5]

Supporting examinations that can be carried out after the patient is referred to a neurologist are lumbosacral x-rays. The main goal is to detect structural abnormalities. Next is a Myelography examination which can provide a detailed anatomical picture. especially the osseous elements of the vertebrae. The next examination is a CT scan which can provide a good picture of the anatomical structure of the vertebral bones and provide a good picture of intervertebral disc hernias. Another follow-up examination is MRI. To detect intervertebral disc abnormalities, identify compression of the spinal cord and nerve roots, and determine the severity of degenerative changes in the intervertebral discs.[6,7,8]

Management for ischialgia is conservative therapy with rest for approximately 2-3 weeks on a hard and flat surface. Next is analgesic therapy in the form of paracetamol; non-steroidal analgesic drugs; tramadol, or up to morphine depending on the degree of pain. Follow-up therapy is physiotherapy therapy to prevent muscle atrophy and decalcification, preferably after the pain has disappeared. Then you can also take anti-rheumatic drugs for medical sciatica. Operative therapy can be a definitive therapy if there are frequent recurrences in ischialgia sufferers who have undergone conservative therapy or if the

case of ischialgia due to HNP is still new but the pain is unbearable or the motor deficit is clear and bothersome, then whether or not surgery is considered should be discussed with a neurosurgeon.[9,10,11]

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