International Journal of Research in Medical Sciences
Manghnani RM. Int J Res Med Sci. 2021 Sep;9(9):2827-2830
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012
DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20213428

Case Report

Case report of missed evolving cauda equina syndrome: pitfalls to avoid in remote consultations

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Received: 25 July 2021
Revised: 07 August 2021
Accepted: 18 August 2021

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ABSTRACT

A 44-year-old lady presented with complaints of lumbosacral back pain radiating to the front of both thighs and up to the front of both knees. She was offered Teleconsultation by 2 GPs and was treated with analgesics. But her pain was not relieved. The third GP took a detailed history and elicited the red flags pointing towards a cauda equina syndrome (CES) in progression. She was called for examination and then was referred to the specialist for immediate further investigations and action. She underwent surgery for CES and her recovery was uneventful. Teleconsultation has the chief limitation of not being able to examine the patient. The importance of taking a detailed clear history regarding the symptoms of cauda equina and documenting the presence or absence of each of the red flag symptoms cannot be overemphasised. Clear, candid and honest discussion of the concerns of the symptoms and the rationale for the referral to the spinal surgeon must be discussed with the patient so as to prevent any miscommunication which can lead to medicolegal claims later on.

Keywords: Cauda equina, Low back pain, Teleconsultation, Medicolegal

INTRODUCTION

Low back pain is a common complaint encountered by the primary care physician. Mechanical causes are the most common causes of low back pain.[1] Often the low back pain is ascribed to musculoskeletal causes and the patient is prescribed analgesics or anti-inflammatory drugs to relieve the pain and inflammation. An alert physician taking a detailed history is important to rule out other lesser common causes of low back pain. Lack of response to analgesics or patient concerns or a repeat engagement of the patient with a GP whether over a remote or face to face consultation must necessitate a repeat enquiry into any emergence of red flag symptoms and a repeat thorough neurological exam. This will help early and timely intervention and could save a prevent deterioration of the disorder and save the patient form a lifetime of misery. There is a need for the primary care physician to be alert about such neurological disorders for making a timely diagnosis and also to avoid the risk of litigation associated with misdiagnosis.

CASE REPORT

A 44 years old lady presented with complaints of lumbosacral back pain radiating to the front of both thighs and up to the front of both knees alternating and occasionally occurring simultaneously. The pain was aggravated by movement and affected her sleep She contacted her general practitioner (GP) and was offered a telephone remote consultation. She reported that she had no pre-existing back pain, or preceding trauma or trigger for the pain. She was prescribed an fixed drug combination of codeine 30 mg/paracetamol 500 mg (2 tablets upto four times a day) to alleviate the pain. The GP noted “no cauda equina symptoms” along with advice to contact him if symptoms persisted.

2 months later, the patient contacted another GP with complaints of persistent non resolving low back pain inspite of taking the prescribed analgesics. She also complained of slight leakage of urine occasionally. She was subsequently prescribed naproxen 500 mg twice a day and advised to contact the GP if symptoms did not improve. But she had no improvement in her symptoms. The patient then contacted the GP practice again 2 months later. As the GP practice did not have any appointment slots available, she was booked in for a telephone remote consultation with an evening extended GP access service.

The GP took a detailed history during the telephonic teleconsultation. He noted that she had low back pain with intermittent abdominal distension since the past 4 months, electric shock like pains in the low back, radiating to both hips and front of the thighs up to the front of the knees. The patent complained of noticing urinary incontinence over the past 2 months occasionally and also reported that she had a clear vaginal discharge. She did not have any faecal incontinence. Her menstrual cycles were regular and she had no inter-menstrual bleeding. During history taking, the patient mentioned that she had occasionally noticed reduced sensation in the buttocks and low back. When the GP enquired about numbness in the genital region, the patient reported that over the past 4 months she noticed that she had no sensation at all when she had sexual intercourse. This was the first time the patient had reported this symptom to a GP since the detailed history elicited by the 3rd GP made her recollect her additional symptoms.

Medical history

Her pelvic ultrasound done 8 months earlier was normal. She had a normal cervical smear which was done 1 year ago. She had no significant past medical history, was not on any long-term medications and was not known to be allergic to any medications.

Examination findings

The patient had normal gait. Her weight was 90.1kg, and her BMI was 37 kg/m2. Her back pain score was 8-9/10. She had lumbosacral spine -tenderness in the midline vertebral bodies L3/L4/L5/S1. Tenderness was present in the paraspinal ligaments bilaterally with spasm

Straight leg raise of the right leg and left leg was 70 degrees and she had no radiation of pain from the low back to the buttock and back of thigh to the foot and none on dorsiflexion of the foot. The dermatomal examination elicited normal sensations in both lower limbs L1-S4. The perianal sensations on examination were normal. Anal tone was normal and no masses were felt. Myotomal examination demonstrated a power grade 5/5 in both the lower limbs L1 to S4. Both plantars were down going bilaterally, she had normal Babinski reflexes bilaterally. Both lower limbs-knees and ankle reflexes were normal. Both hips were -non tender on palpation with full range of movements. There were no significant findings on abdominal examination.

Subsequent course of treatment and outcome of treatment

In view of her symptoms of vulval numbness where she had no sensation during intercourse, and her complaints of occasional urinary incontinence, the GP discussed with the orthopaedic spine surgeon the possibility of an evolving cauda equina syndrome. The spine surgeon was consulted and the patient was advised immediate hospitalization and further evaluation. She underwent an urgent MRI lumbosacral spine. The patient had multiple level prolapsed intervertebral discs with central disc protrusions of L4-L5. L5-S1 with marked central stenosis at L4-L5 level. Surgical discectomy with laminectomy was performed and the patient did not have any surgical complications and subsequently her symptoms resolved completely.

DISCUSSION

Low back pain is highly prevalent in the community setting and is a common complaint of patients presenting to the GP. Teleconsultation in the times of the pandemic has been utilized to offer health care to patients with minimal risk of infection to both the patient and physician. Low back pain is usually considered to be nonspecific or mechanical. Hence low back pain is often treated with analgesics and is often ascribed to weight issues.

Mechanical low back pain may arise from the spine, intervertebral discs, or surrounding soft tissues.[1,2] But, patients with low back pain need to have a detailed assessment of history and detailed neurological examination. Clinical diagnosis of low back pain by the GP must be guided by a detailed history and clinical examination. Based on the findings, the further need for a diagnostic workup and referral to a specialist can be determined. As a thumb rule, low back pain can be allocated to either of 3 categories: specific spinal pathology (< 1% of cases), radicular syndrome (~ 5-10% of cases) or non-specific LBP (NSLBP), (90-95%) and this is diagnosed by exclusion of the first two categories.[3] The GP must keep an index of suspicion of less frequent causes of low back pain when dealing with distinctive history cues and positive signs on clinical examination, especially in patients refractory to analgesics.[3] Face to face consultation will be needed for a thorough clinical examination. Imaging on initial presentation must be reserved for patients where the possible etiology may be cauda equina syndrome, malignancy, fracture, or infection.[1] Imaging must be considered particularly in patients who have a focal neurological deficit present.[4]

Cauda equina syndrome (CES) is a rare neurologic condition caused by compression of the cauda equina. Cauda equina comprises of spinal nerves L2-L5, S1-S5 and the coccygeal nerve. The cauda equina nerve roots

give sensory and motor innervation to a major part of the lower extremities, the pelvic floor and the sphincters.[5] CES can be categorised as CESI (incomplete CES) and CESR (complete CES with urinary retention and incontinence). Almost 45% of cases of CES may be due to lumbar disk herniation.[6] Other causes include spinal stenosis and spinal neoplasms.[6] The common presentation of the patients of CES include low back pain, unilateral or bilateral sciatica, motor weakness of lower extremities, sensory disturbance in saddle area, numbness, and weakness, and loss of visceral function resulting in bowel and bladder dysfunction.[7] A late finding is decreased rectal tone. Early diagnosis poses a challenge due to subtle nature of the symptoms. Face to face consultation is critical to test the sensory disturbances. Cauda equina syndrome can be diagnosed based on the symptoms elicited during the history taking and the signs elicited on physical examination and can be confirmed by MRI or CT.[6,7] In case the physician misses making the diagnosis of CES, or if there is a delay in the diagnosis, then an evolving CES can progress to complete CES. This will result in severe irreversible neurological damage resulting in permanent urinary and or faecal incontinence, sexual dysfunction, leading to loss of self-esteem, confidence and psychiatric trauma.[6] This affects employment prospects and the quality of life of the patient due to the neurological complications.

Urgent referral to a spine surgeon is patients with cauda equina syndrome, CES caused by lumbar disk extrusion is an indication of urgent surgery.[8] In this patient, the urgent surgery resolved her symptoms and she had an uneventful recovery.

Missing the diagnosis of CES due to considering the low back pain to be due to nonspecific causes can result in medico legal issues. This would be especially true if the GP has not taken a thorough history and called the patient for a face-to-face examination and has missed eliciting the signs of CES. Telemedicine cannot be relied upon completely to arrive at a diagnosis in such patients. The inability to conduct a thorough physical examination is a limitation of Teleconsultation that has to be kept in mind.

Clinical pearls

The importance of taking a detailed clear history regarding the symptoms of cauda equina and documenting the presence or absence of each of the red flag symptoms cannot be overemphasised. It is vital to clarify with the patient any history or symptoms which are not clear, vague or ambiguous and to document these. Ensure questions are asked about radiation of pain down one or both lower limbs, genital numbness, numbness in upper and inner thighs, buttocks, difficulty voiding or incontinence of urine or faecal incontinence. It is important to examine patients with low back pain so as to ensure a thorough neurological examination is conducted particularly anal tone, perianal sensation, myotomal and dermatomal exam and reflexes. Lack of response to analgesics or patient concerns or a repeat engagement of the patient with a GP whether over a remote or face to face consultation must necessitate a repeat enquiry into any emergence of red flag symptoms and a repeat thorough neurological exam and a low threshold to arrange an urgent MRI spine through an urgent referral to a spinal surgeon if any of the symptoms are suggestive of an evolving or suspicion of possibility of cauda equina. Clear, candid and honest discussion of the concerns of the symptoms and the rationale for the referral to the spinal surgeon must be discussed with the patient so as to prevent any miscommunication which can lead to medicolegal claims later on. If the patient refuses to see the spinal surgeon urgently or is not in agreement with the management plan then a detailed discussion of the risks of irreversible loss of urinary and anal sphincter control and loss of sexual and genital sensation must be discussed with the patient and documented again to defend oneself if a claim of medical negligence were to arise at a later date. Medicolegally a lack of thorough clear documentation of symptoms in the clinical records and a lack of face to face physical examination that subsequently leads to a missed or delayed diagnosis of either evolving or complete cauda equina syndrome can be potentially difficult to defend in a litigation for medicolegal negligence claim if the delay has been found to be contributory or proven to be a causation of harm to the patient with subsequent urinary or anal or sexual functional disorder whether temporary or irreversibly.

CONCLUSION

An alert clinician, thorough history taking and proper clinical examination are the keys to can arriving at the correct diagnosis in a patient with low back pain refractory to analgesics. Missing the diagnosis of CES due to inadequate history taking and appropriate neurological examination and investigations can lead medico legal issues.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Manghnani RM. Case report of missed evolving cauda equina syndrome: pitfalls to avoid in remote consultations. Int J Res Med Sci 2021;9:2827-30.