Accessory nerve injury

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This article discusses a Supreme Court judgment involving an injury to the spinal accessory nerve which occurred during the excision of a lymph node mass in the posterior triangle of the neck.[1] In this case, the medical practitioner was found to have been negligent for failing to diagnose the nerve injury in the postoperative period, and not for the actual injury to the nerve during the procedure.

Case history

The patient, 26 years of age, felt a lump on the right side of her neck in July 1999. She saw her general practitioner and was referred to a surgeon. On 10 August 1999, the surgeon performed an exploration of the right cervical nodes and found a large abscess cavity. This was drained and swabs were sent for culture. The lump recurred and the patient saw the surgeon again on 31 August 1999. The surgeon thought that the lump was probably a haematoma. He readmitted the patient to hospital and on 1 September 1999 the surgeon drained the area. Unfortunately, the neck lump recurred and the patient saw the surgeon again on 21 October 1999. The surgeon ordered a computerised tomography scan and ultrasound and, having reviewed the results of these investigations, he concluded that the abscess had reformed. The patient was admitted to hospital for a third time on 10 November 1999. The surgeon performed a wide dissection of a large right sided lymph node mass. The mass was noted to be densely adherent to the sternocleidomastoid muscle and the internal jugular vein. The operative report noted a '? division of accessory nerve as it enters the sternomastoid muscle'.

Following her discharge from hospital on 12 November 1999, the patient was unable to lift her right arm. She also experienced constant pain in the right shoulder. At a postoperative visit to the surgeon on 25 November 1999 the patient complained of the difficulties that she was experiencing with her right arm and shoulder. The surgeon did not recommend any further investigation or treatment.

The patient saw her GP in December 1999 and was referred for an X-ray and ultrasound of the right shoulder. The GP made a provisional diagnosis of a frozen shoulder. Around this time, the patient fell pregnant with her first child and she sought no further treatment for her shoulder during the pregnancy.

In November 2000, the patient saw her GP again about her ongoing shoulder problems. She was referred to an orthopaedic surgeon who recommended physiotherapy.

On 31 May 2001, the patient returned to see the surgeon. The patient advised the surgeon that she had suffered from chronic shoulder pain and had a reduced ability to use her right arm since the surgery. On examination, the surgeon noted that there was visible wasting of the trapezius muscle and weakness of shoulder abduction. He told the patient that he thought that she had injured her right spinal accessory nerve. The surgeon considered that a nerve repair would not be of any benefit.

The patient went on to see a neurosurgeon on 28 August 2001. The neurosurgeon advised the patient that her accessory nerve had been damaged during the surgery in November 1999. He considered that accessory nerve reconstruction was no longer feasible.

The patient subsequently commenced legal proceedings against the surgeon.

The plaintiff's (patient's) case was that the defendant (surgeon) had severed the right accessory nerve during the procedure to remove the lump in her neck and that the defendant's treatment of the plaintiff was thereafter negligent in that:

- he failed to inform the plaintiff of his suspicion that he had severed the nerve
- he failed by appropriate examination to confirm that he had severed the nerve, and
- he failed to refer the plaintiff to an appropriate

specialist for timely remedial surgery.

Interestingly, the plaintiff did not allege that the actual severance of the nerve during the surgery had been negligent. Expert evidence was obtained with respect to the defendant's duty to determine if his suspicion that the accessory nerve had been divided was correct. The experts suggested that a 'shrug test' and arm abduction examination would have established that the nerve had been divided. There was a dispute between the plaintiff and defendant as to whether these tests had been conducted in the immediate postoperative period. Although the defendant stated that he had performed these examinations, the plaintiff claimed that he had not. The hospital records did not include any notation of a postoperative examination by the surgeon.

The claim proceeded to trial in March 2005 and judgment was handed down on 1 July 2005. Ultimately, the Court found that the defendant was negligent in the following respects:

(i) in the failure to carry out sufficient postoperative examinations to determine whether the right accessory nerve had been severed

(ii) in the failure to advise the plaintiff prior to her discharge from hospital of his suspicion that the nerve had been severed

(iii) in the failure to carry out appropriate examinations of the plaintiff at a post discharge consultation such as would have established severance of the accessory nerve

(iv) in the failure to advise the plaintiff of the need for surgical repair of that nerve by a suitably qualified specialist.

The Court was also critical of the failure of the surgeon to mention the possibility of nerve damage in the discharge letter to the referring GP. Based on the expert evidence, the Court went on to state that, if the nerve had been repaired in the early postoperative period, it was likely that reasonable function in the right upper limb would have been restored. The Court awarded the following damages to the plaintiff:

- Noneconomic loss $160 000
- Economic loss $258 000
- Loss of superannuation benefits $22 252
- Out-of-pocket expenses $12 793.86
- Gratuitous care $195 042.20
- Pain massage $15 000
- Future medical care $14 270
- Home maintenance $31 309.30
- Future childcare $18 419
- Home modification $31 824
- Total $758 910.36

Discussion and risk management strategies

Injury to the spinal accessory nerve in the posterior cervical triangle results in paralysis of the trapezius muscle and shoulder dysfunction. As the nerve crosses the posterior cervical triangle, its superficial location makes it very susceptible to injury. Any surgery in the posterior cervical triangle can injure the nerve, such as cervical lymph node biopsy, excision of benign masses and radical neck dissections for malignancy. Cervical lymph node biopsy is the main cause of accessory nerve injury. Iatrogenic spinal accessory nerve injuries need to be diagnosed early and treated promptly to prevent a severe and progressive debility of the shoulder girdle. Unfortunately, referral for treatment is usually delayed, the average length of the delay being 14 months.[2]

The usual presenting complaint of a patient who has suffered an injury to the accessory nerve is an inability to raise the arm above horizontal and/or shoulder droop. Almost as common is a complaint of pain, usually a 'dragging pain' in the shoulder. On physical examination, there is some degree of weakness of the trapezius muscle. Atrophy of the trapezius muscle, shoulder sag and scapular winging may be present.[2]

General practitioners need to be aware of the possibility of injury to the spinal accessory nerve when performing surgical procedures in the posterior triangle of the neck. They may also perform an important role in detecting injury to the spinal accessory nerve in patients who present with shoulder symptoms after neck surgery. In this case, the failure of the defendant surgeon to advise the GP that the accessory nerve may have been injured meant that the GP was not alert to this possibility.

Conflict of interest: none.

References

1. *Wighton v Arnot [2005] NSWSC 637.*
2. Donner T, Kline D. Extracranial spinal accessory nerve injury. Neurosurgery 1993;32:907-11.

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Poetry

Wounds

He sounds like
a normal enough bloke,
and she's a sensible girl,
I wonder how it all came to this
as the needle leads
the thread through the hole
his wedding ring has made,
just above her eyebrow.
She sits there absolutely still,
hasn't said much
since she came in, though
the two kids, playing catch
in the cubicle, make enough noise
for all of us. The bruises
express themselves simply
on her otherwise blank face as I probe,
dabbing only once in a while
to stop blood running down
onto the sheets.
"We're almost there",
I tell her, but she twitches
and winces, starts to pull away.
I tighten my grip on her shoulder,
hoping it doesn't hurt her too much,
carefully catch the last
bit of thread that's all that holds this
gaping wound together.

Shen

The ring cuts savagely into this poem that is itself a wound, a splitting open of a complicit silence, a bleeding of words. The patient is blank, leaving the poet to question repairing domestic violence with his needle and thin thread of lines that runs like sutures down the page.

Tim Metcalf