Two Cases Suggesting Idiopathic Intercostal Neuralgia

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Abstract

Two patients with episodes of paroxysmal chest pain showed no evidence of an underlying cause despite thorough investigation.

Sharp pain with a trigger point occurred in paroxysm with a short duration (5~15 seconds). These feature of the pain supported a diagnosis of idiopathic intercostal neuralgia.

The chest pain of these two patients is currently well controlled by carbamazepine.

Key Words : intercostal neuralgia, idiopathic neuralgia, carbamazepine

Various diseases may be associated with chest wall pain, and spinal diseases or visceral diseases can often cause such pain.

We experienced two patients with paroxysmal chest wall pain of unidentified origin. Idiopathic intercostal neuralgia was diagnosed base on the history and results of investigations.

CASE 1

The patient was a 48-year-old male.

Chief complaint : Paroxysmal, right precordial pain.

Past history : Not contributory.

Family history : Not contributory.

Present illness : Since the spring of 1985, a sharp pricking pain occasionally developed in the right anterior chest wall upon during dressing and undressing, without any precipitating factors.

The occurrence of pain gradually became

Fig. 1 Pain profile.

- Right precordial pain corresponded to the distribution of the 3rd thoracic nerve.
- Paroxysmal sharp pain (the sensation of being lanced with a hot skewer).
- Five to 15 seconds in duration.
- Triggered by such motions as dressing or undressing and light touch.

more frequent, and the severity of the pain also increased. However, as the symptom was still tolerable then, he neglected it.

The pain sometimes remitted for a while without any reason, and the pain free period lasted generally for 3 to 8 months.

However, his pain increased in severity from February 1990. He had frequent attacks of an agonizingly severe pain with a sensation of being lanced by a hot skewer in the right anterior chest, and so was referred to our facility in April.

The pain appeared to be in the distribution of the 3rd thoracic nerve (**Fig. 1**). It was paroxysmal sharp pain, giving a sensation of being lanced with a hot skewer, that usually lasted for about 5 to 15 seconds. It was triggered with such light stimulation as dressing and undressing or

Fig. 2 Duration of pain relief after nerve blockade.

wiping the body with a towel after taking bath. Sudden attacks of this severe sharp pain sometimes provoked difficulty in breathing. Taking a hot bath itself, however, seemed to relieve the pain.

Various examinations were performed (CT, myelography, MRI, and bone marrow scintigraphy) to detect possible diseases in the thoracic cavity and thoracic spine, but nothing abnormal was found.

In addition, the patient also received psychological tests, including the Cornell Medical Index, Manifest Anxiety Scale, Yatabe Guilford Test, and Minnesota Multiphasic Personality Inventory. The results of all tests were within the normal range.

For treatment, carbamazepine (100mg) was initially given orally and marked pain relief was observed in this patient.

Nerve blocks were attempted several times using a local anesthetic. When the 3rd intercostal nerve was blocked 4 times at the axilla, several hours of remission from the pain occurred after the 3rd block as expected. A prolonged effect, about 7 hours of pain relief, was produced by radicular blockade of the 3rd thoracic nerve (**Fig. 2**).

Fig. 3 Pain profile.

- Left lateral chest pain in the distribution of the 5th thoracic nerve.
- Paroxysmal sharp pain (lancinating pain).
- Several seconds in duration.
- Triggered by shifting of the sleeping position and normal movements in daily life.

Currently, the patient is being treated with carbamazepine at 100 mg/t. d. s., and has no pain.

CASE 2

The patient was a 55-year-old female.

Chief complaint: Paroxysmal left lateral chest pain.

Past history: Uterine cancer and thyroid cancer treated surgically in 1982.

Family history: Her elder sister underwent an operation for rectal cancer, and is currently healthy.

Present illness: Since around 1985, she developed episodes of momentary sharp pain in the left lateral chest. The occurrence of her chest pain was preceded by one week by convulsive movements of muscles at the site of the pain and in a narrow area on the back.

Her pain gradually grew severer, and failed to respond to any of the analgesics used, although it sometimes receded spontaneously for 3- to 6-month periods.

From the end of 1989, the severity of her pain increased further and affected her daily life markedly. After it began to cause sleep disturbance, the patient visited our facility in January 1990.

A paroxysmal sharp pain corresponding to the distribution of the 5th thoracic nerve was the pattern of her pain (**Fig. 3**). It was lancinating in nature and lasted for only a few seconds.

Her pain was triggered by shifting sleeping positions and it had often interrupted her sleep in the recent period before presentation. The onset of pain was also provoked by some movements, especially those of the left arm. Free motion was therefore restricted, and she usually kept her left

Fig. 4 Clinical course.

- A : Operations for uterine and thyroid cancer
- B : Onset of left lateral chest pain
- C : First medical examination, Intercostal nerve blockade
- D : Computerized tomography
- E : Magnetic resonance imaging
- F : Intercostal nerve blockade

hand on the waist so as not to let the arm touch the side of the chest or the axilla.

Her pain was somewhat relieved by hot bath. Intercostal nerve blockade was performed for diagnostic purposes at the time of the initial examination and produced complete pain relief for about 8 hours.

Carbamazepine (300mg/day) markedly decreased the severity of her chest pain, and a complete analgesic effect was observed after 10 days of treatment.

The suspension of carbamazepine treatment was clearly associated with the recurrence of symptoms, and when intercostal nerve blockade was carried out again it produced an 11-hour pain free period.

Subsequently, treatment with carbamazepine (300mg/day) was resumed, and no recurrence of symptoms has been observed to date (**Fig. 4**).

Since this patient had a history of malignancy, thorough examinations were undertaken of the relevant regions and systems, but no signs of lesions associated with her chest pain were found.

DISCUSSION

To make a diagnosis of idiopathic neuralgia, the presence of the following features needs to be confirmed :

- (1) Pain of unidentified origin and symptoms other than pain.
- (2) Pain presenting within the distribution of a specific nerve.
- (3) Pain that is paroxysmal, sharp, and of short duration.
- (4) Existence of a trigger zone (point).
- (5) The occurrence of spontaneous remission of the pain on some occasions.

(6) No signs of other diseases preceding the development of pain.

These criteria were fulfilled by the two patients reported here in, but follow-up for a year or more may be required to establish the diagnosis. In particular, patients such as Case 2 who had undergone an operation for malignancy may have to be carefully followed-up over a longer term before determining the diagnosis as idiopathic neuralgia.

Both of these patients responded well to carbamazepine at a low dose of 100 mg t. d. s.

True idiopathic trigeminal neuralgia and glossopharyngeal neuralgia are likely to be relieved by low dose of carbamazepine as a characteristic feature, while when trigeminal or glossopharyngeal neuralgia is a presenting symptom of inflammation or tumor, carbamazepine treatment usually produces a poor response.

This provides an important index for the determination of idiopathic neuralgia. If the pain is relieved significantly or disappears with anticonvulsants given at low doses and associated with no adverse reaction, this is considered to suggest idiopathic neuralgia.

When carbamazepine or an anticonvulsant no longer produces an adequate response, nerve blockade using a neurolytic agent is considered in cases of trigeminal or glossopharyngeal neuralgia, and alcohol and phenol are generally employed.

However, the blockade of spinal nerve may induce neuritis, although this is less often a problem in the blockade of cerebral nerves.

The association of lumbar sympathetic nerve blockade using alcohol with genitofemoral neuritis has sometimes been recognized clinically.

Furthermore, with the blockade of spinal nerves, only the sensory but also the motor nerve

functions are blocked, and an uncomfortable tight sensation usually develops in the affected zone.

Although the chest pain is currently well controlled by carbamazepine in our patients, if carbamazepine no longer produces an adequate response, it will be difficult to find a suitable alternative nerve blocking agent.

To avoid neuritis following nerve blockade, thermocoagulation or cryotherapy may need to be performed.

There have been very few reports on the diagnosis and treatment of idiopathic intercostal neuralgia, and we could only find that of Naganuma et al¹⁾.

The symptoms of the patient in his report were very similar to those of our two cases, supporting our diagnosis.

He reported that aqueous phenol was used for intercostal nerve blockade, and there is also another case report of its use for symptomatic intercostal neuralgia²⁾. Their results suggest that there is a difference between the nerve blocking effect of alcohol and that of phenol, and the outcome of phenol treatment seems to be interesting.

References

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