At the present stage of our ignorance I think we must continue to use the term "Cervical Syndrome" to cover the effects which may accrue from disease or injury of the cervical spine. For the purpose of this paper, I would ask you to dismiss fractures, dislocations, infections, new growths and such serious calamities affecting the cervical vertebrae.

A variety of symptoms can derive from derangement of a cervical joint. Pain may be in the form of a headache, facial neuralgia, neckache, pain referred down the arm to the scapula, to the axilla and to the chest.

The symptoms of Cervical Spondylosis fall into five main groups:

1. Those caused by involvement of the roots — Radicular symptoms.
2. Those caused by involvement of the spinal cord — Cervical Myelopathy.
5. Symptoms of vertebro-basilar ischaemia.

6. Symptoms caused by confusing impulses arising in the cervical joints and muscles — vertigo, tinnitus, thick headedness, blurring of vision, etc.

The chest pain may be brought on by effort and simulate pain of cardiac origin. The commonest site of pain is in the scapular area about the level of D4 or 5. This is often misinterpreted and one sees patients who have had their upper thoracic area X-rayed and treated with various physical modalities when the fitting of a collar combined with manipulation of the neck rapidly controls their pain and demonstrates the probable origin of their symptoms. The pathology is essentially an internal derangement of a cervical joint and the X-rays may reveal no abnormality whatsoever. I think the insistence of Stoddard (1970) that a distinction must be made between what he calls Cervical Spondylosis and Cervical Osteo-Arthritis is a sound one because these represent two disease entities. While both types may occur in the same patient, it is helpful to distinguish between the two and this can be done on the clinical findings, symptoms and the X-ray changes. (See Table 1).

<table>
<thead>
<tr>
<th>TABLE 1</th>
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<tbody>
<tr>
<td>Cervical Spondylosis</td>
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<tr>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Involvement</td>
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<tr>
<td>Age Group</td>
</tr>
<tr>
<td>Cause</td>
</tr>
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<td>Area affected</td>
</tr>
<tr>
<td>Pattern of pain</td>
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<tr>
<td>Pain relieved or accentuated by certain positions of the head.</td>
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<tr>
<td>Restricted Movement</td>
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<td>Crepitus</td>
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Degenerative changes in the discs lead to secondary changes in the adjacent vertebral joints and spondylitic changes occur above and below congenitally (or surgically) fused vertebrae due to excessive movement at these levels. It must not be lost sight of that the synovial cervical joints may be involved in inflammatory arthritis, the order of frequency being rheumatoid disease, psoriatic arthritis, ankylosing spondylitis, Reiter's disease and colitic arthritis.

There are certain anatomical differences between the cervical and lumbar vertebrae which explain the differences in symptoms produced by derangements at these levels.

In figure 1, you will note that the root travels outwards between the Scilla of the apophyseal joint and the Charybdis of the neuro-central joint of Luschka. At this point the root is vulnerable to the pincer action of anteriorly, the neuro-central and posteriorly, the facet joints.

These two joints are potential sources of synovial swelling and subsequent osteophytic buttressing both of which can and do encroach on the nerve root. Cervical disc extrusions do not press on the nerve root as they do in the lumbar region and this again mitigates against posterior or posterolateral extrusions.

In the cervical spine a bar of osteophytes can compress the spinal cord or produce a thrombosis of the anterior spinal artery. If the antero-posterior measurement of the spinal canal is 12 millimetres or less, then any superimposed osteophytic lipping will lead to a cervical myelopathy. It is obviously wise always to test the plantar responses and to bear in mind that the development of cord compression can be insidious and asymptomatic. Attention has often been drawn to the discrepancy between the X-ray findings and the severity of symptoms. Swollen periarticular tissues do not cast a shadow on X-ray.

Mountcastle has shown in cats that in response to specific movements of the neck, columns of cerebral cortical neurones are fired. The intersegmental sub-occipital muscles which can be considered as the fine adjustment for movements of the atlanto-occipital and atlanto-axial joints have very many more spindles per gramme of muscle than the sternomastoid. These last two points are germaine to the problem of cervical vertigo.

Megirian and Sherrey are working on this bombardment of the vestibular nucleus with confusing stimuli arising in the cervical joints. Their researches are being conducted at the University of Tasmania. An atheromatous vertebral artery may be encroached upon by osteophytes leading to hind brain ischaemia on neck movements. This will lead to drop attacks, positional vertigo and visual disturbances.

In testing for root pain, each movement must be held for several seconds before the paraesthesia will develop. Sensory changes are variable and unreliable. Reflexes are a valuable guide to the root involved.

It will be appreciated from the foregoing that Sciatic and Brachial Neuralgias have different pathological backgrounds and, therefore, a different symptom pattern, history, prognosis and response to treatment.

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In the lumbar spine the pathology is dominated by the recurring, discouraging oozing out of disc material but in the neck, we are dealing with small delicate synovial joints. An attack of torticollis does not progress to Brachial Neuralgia. Brachial Neuralgia is likely to be characterized by a single attack without recurrences but it is typical of Sciatica to be followed by recurrences and accompanied by a gloomy prognosis.

Figures 2 and 3 help to alert us to the variety of symptoms which, when present, should make us think of the Cervical Syndrome as a cause.

The main bastions of physical treatment are manipulation and nocturnal support in a collar. The exhibition of the anti-inflammatory drugs is indicated in Cervical Osteo-Arthritis. In vertebro-basilar ischaemia, manipulation is directed at increasing the range of movement in the lower cervical and upper dorsal areas in order to take some of the onus of movement away from the upper cervical joints and thereby decrease the distortion of the vertebral artery. In Cervical Spondylosis and Cervical Osteo-Arthritis, manipulation must be specifically applied to the joints which are the site of diminished movement and every effort should be made to localize the distracting force to these joints alone. They are small synovial joints and our manipulation must be in the nature of a gentle flick. Often a cervical vertigo or headache is relieved by manipulation aimed at rotation to one side while the symptoms are aggravated if the neck is rotated the other way. After manipulation of a cervical spine, there is often an increase in the crepitus on voluntary movement. This unwelcome reaction is temporary and is the price we have to pay for increasing the freedom of movement. The “creaking” may take a month or two to wear off. Minor weakness of the muscles recovers in three to six months.

**Figure 2**

**Figure 3**

**Summary**

To summarize the points made:

1. Be alerted to the possibility of the Cervical Syndrome being the source of a variety of bizarre and widespread symptoms.
2. It is important to differentiate between Cervical Spondylosis and Cervical Osteo-Arthritis in order to rationalize treatment.
3. Appreciation of the anatomical differences between the cervical and lumbar spines is necessary in order to understand how symptoms are produced.
4. The onset of cord compression can be insidious and asymptomatic.
5. The X-ray changes bear very little relationship to the severity of the symptoms.

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6. Support in a collar is the greatest weapon we have for treating this syndrome.

7. Manipulation is, in my view, the next most useful modality but I would plead with you to realize that your manipulation must be applied specifically not only to a certain level of the neck but also to one or the other side. A technique which aims at putting the joints through their full range of movement in all directions may occasionally produce a satisfied customer but the osteopaths and chiropractors make a living out of the failures of this shot gun technique and I would suggest that the continued success of unregistered manipulators is largely due to their mastery of accurately applied manipulative techniques.

REFERENCES


Sherry, J. H. Personal communication.