CASE FOUR

Short case number: 3_26_4
Category: Musculoskeletal System & Skin
Discipline: Medicine
Setting: General Practice
Topic: Regional pain syndromes_Fibromyalgia [SDL]

Case

Shelley-Anne Warner, 31 years old, is a frequent attendee to your practice. Over the years you have managed her depression with the breakdown of her marriage, she experiences a lot of 'ups & downs'. Her most recent problems have been have related to fatigue and muscle aches and pains.
She presents today looking exhausted, *"I just can't seem to get through the day any more by 3pm I drag myself to pick up the children and I ache all over"*

Questions

1. In your assessment of Shelley what key features of history and examination would support a diagnosis of fibromyalgia?
2. What investigations would you undertake in your assessment of Shelley and why?
3. Fibromyalgia is often classed as a chronic pain syndrome. Outline the mechanisms that may be involved in fibromyalgia explain why it is considered as a chronic pain syndrome.
4. In your management of Shelley you need to develop a bio-psycho-social approach, what does this mean and why is it important in the management of patients with fibromyalgia or similar regional pain syndromes.

Suggested reading:

- Kumar P, Clark ML, editors. Kumar & Clark's Clinical Medicine. 8th edition. Edinburgh: Saunders Elsevier; 2012.
- Colledge NR, Walker BR, Ralston SH, Penman ID, editors. Davidson's Principles and Practice of Medicine. 22nd edition. Edinburgh: Churchill Livingstone; 2014.

ANSWERS

1. In your assessment of Shelley what key features of history and examination would support a diagnosis of fibromyalgia?

   The main presenting feature is multiple regional pain, often focusing on the neck and back. At presentation just one or a few regions may dominate the picture, but over the preceding months pain will have affected all body quadrants-both arms, both legs, neck and back. The pain is characteristically unresponsive to traditional measures (analgesics, NSAIDs) and physiotherapy often makes it worse. Fatigability, most prominent in the morning, is the second major problem. Reported disability is often marked. Although people can usually dress, feed and groom themselves, they may be unable to perform daily tasks such as shopping, housework or gardening. They may have experienced major difficulties at work or even given up employment because of pain and fatigue.

   Examination usually reveals no abnormality of the MSK system in terms of joint synovitis or damage, and no overt neurological defect or wasting. Depending on their age, people may have signs of OA or other prevalent MSK conditions, but of insufficient severity to explain such widespread symptoms and severe disability. The principal finding is hyperalgesia at tender sites. Moderate digital pressure at each site may be uncomfortable in a normal subject but in fibromyalgia it produces a wince/withdrawal response. Metered dolorimeters are available for research purposes but moderate digital pressure, strong enough just to whiten the nail, is sufficient for clinical diagnosis. Crucially, tenderness should also be tested at negative control sites (pressure on forehead, squeezing across the distal radius and ulna, pressure over the proximal fibular head). If a person exhibits hyperalgesia wherever pressure is applied, he or she is likely to have severe psychological disturbance or to be malingering

2. What investigations would you undertake in your assessment of Shelley and why?
   Fibromyalgia does not associate with any abnormality of routine testing. However, it is important to screen for alternative conditions that may account for some of the symptoms without producing overt clinical signs. Such conditions and the correct tests include:
   -Anaemia of lupus (FBC, ANA),
   -other inflammaroty conditions (ESR, CRP),
   -thyroid disease (TSH, T4),
   -hyperparathyroidism (PTH, Ca).

3. Fibromyalgia is often classed as a chronic pain syndrome. Outline the mechanisms that may be involved in fibromyalgia explain why it is considered as a chronic pain syndrome.

   The condition is poorly understood. Despite intensive and invasive investigation, no structural, inflammatory, metabolic or endocrine abnormality has been identified. Two abnormalities, however, have consistently been reported:
   Sleep abnormality.
   Delta waves are characteristic of the deep stages of non-rapid eye movement (non-REM) sleep, which usually occurs in the first few hours and is thought to have primarily a restorative function. People with fibromyalgia have reduced delta sleep in a pattern distinct from the sleep abnormalities associated with depression. Furthermore, deprivation of delta but not REM sleep in normal volunteers produces the symptoms and signs of fibromyalgia, supporting the concept of fibromyalgia as a non-restorative sleep disorder.
   Abnormal pain processing.
   A reduced threshold to pain perception and tolerance at characteristic sites throughout the body is a central feature of fibromyalgia. Affected people also have spinal cord 'wind-up' (pain amplification), as evidenced by the exaggerated skin flare response to topically applied capsaicin and frequent occurrence

of dermatographism and allodynia (when normally non-noxious stimuli become painful). Other observations to support abnormal pain processing include altered cerebrospinal fluid levels of substance P (increased) and 5-HT (5-hydroxytryptamine or serotonin-reduced), and reduced regional cerebral blood flow in the caudate and thalamus.

4. In your management of Shelley you need to develop a bio-psycho-social approach, what does this mean and why is it important in the management of patients with fibromyalgia or similar regional pain syndromes.

Although pharmacologic treatment remains the mainstay of therapy for the majority of patients with fibromyalgia, recent evidence shows that the optimal intervention is an approach that also includes non-pharmacologic treatments, specifically exercise and cognitive behaviour therapy. The American Pain Society Fibromyalgia Panel recommends a multidisciplinary clinical approach including education, cognitive behaviour strategies, physical training, and medications for treatment of fibromyalgia