Editorial

Subgroups Within "Nonspecific" Low Back Pain

The success of modern medicine has been based on the following disease model:

1. Recognize patterns of symptoms and signs	History and examination
2. Identify underlying injury or disease	Investigation and diagnosis
3. Treat underlying injury or disease	Specific therapy
4. Expect the patient to recover	Cure

There are many examples of its application, even in spinal disorders, from antituberculous drugs to surgery for lumbar disc prolapse that fails to resolve naturally. Historically, however, this approach has always been difficult to apply to back pain[1].

All international clinical guidelines for acute low back pain agree on the importance of diagnostic triage[2,3]:

- Nerve root pain (usually associated with disc prolapse or spinal stenosis; about 5% of cases)
- Possible serious spinal pathology (the so-called "red flags" for vertebral fracture, spinal tumor or infection, or cauda equina syndrome; about 1–2%)
- Nonspecific low back pain (85–95% of cases)

Triage leads logically to investigations, pathological diagnosis, and specific treatment in the first 2 categories; unfortunately, this leaves 85–95% of patients in the "nonspecific" category.

However semantically correct, nonspecific low back pain is not a good clinical diagnosis[1,4]. It is intellectually and scientifically inadequate and fails to provide any biological basis for real understanding. Treatment remains empirical or based on unproven hypotheses. The term is unsatisfactory for doctor, therapist, and patient alike because it betrays our ignorance and leads to failure of communication, and to confusion and lack of confidence; moreover, it fails to meet expectations of a "proper" diagnosis or to provide reassurance, and leaves uncertainty and apprehension about treatment, prognosis, and likely outcome.

So for many, the Holy Grail of low back pain research is to find a way to subclassify nonspecific low back pain[5]. There have been many attempts, most of them based on unproven clinical theories, with no clear pathological, investigation, treatment, or prognostic evidence base. Labels such as "low back strain" or "degenerative changes" may sound better but are unfounded and bear little or no relationship to the clinical problem.

Every specialty has its own preferred diagnostic classification(s), but different specialties can no more agree on classification than on using each others' toothbrushes. So the diagnosis you receive for nonspecific low back pain has more to do with the specialist you consult than the condition of your back[6].

In this issue of The Journal, Smedley and colleagues provide one of the few pieces of empirical evidence that might help to distinguish different types of nonspecific low back pain[7]. They analyzed 2 prospective, longitudinal epidemiological studies of risk factors for developing a first new episode of back pain during 2-year followup. Their work was performed to the high methodological standard we expect from this group, with convincing findings and careful conclusions. The main limitation is that the studies were in female nurses, who may not be representative of all low back pain sufferers, although that may not be relevant for this particular analysis. The authors rightly caution that their findings need to be confirmed.

Smedley and colleagues found a significant difference between new episodes of sudden and gradual onset, which is of considerable theoretical interest even if the strength of some of the associations was actually quite weak. Low back pain of sudden onset was associated with greater short-term disability and more sickness absence from work. In terms of risk factors, low back pain of sudden onset at work was strongly associated with exposure to specific patient-handling tasks; symptoms that came on suddenly with work

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were unrelated to occupational exposure. Low back pain of gradual onset showed no significant relation to occupational tasks, but was weakly associated with baseline psychological symptoms. These findings all make sense and may help to disentangle the complex relationships between physical and psychosocial risk factors for back pain[8]. They are consistent with previous findings by Burton and colleagues[9] that physical loading on the spine in policemen was associated with first-onset back pain with a dose-response relationship, while the development of chronic pain and sickness absence was associated more with psychosocial factors. A systematic review by Linton[10] also found that psychological distress was only a weak risk factor for new-onset back pain, while psychological factors were more strongly associated with the development of chronicity.

Smedley and colleagues rightly consider these findings to have implications for the evaluation of ergonomic interventions aimed at primary prevention. That is certainly worth exploring, given the general lack of evidence that primary prevention is effective[11]. But the distinction between low back pain of acute and sudden onset may have much more fundamental implications for distinguishing subgroups of nonspecific low back pain. It joins a very limited set of other empirical evidence on this issue: the anatomical pattern of pain[12] and centralization, although whether centralization is a physical characteristic or a response to treatment remains unclear[13]. Account must also be taken of the severity of pain and disability[14], duration of symptoms and passage of time[15], and psychosocial factors[16].

The challenge is how to disentangle these physical and psychosocial characteristics and the interactions between them; to distinguish clinically meaningful types, or at least groups, of patients within "nonspecific low back pain"; to relate these to anatomical, biomechanical, or pain provocation findings and possibly also to psychosocial characteristics; and finally to relate them to individual response to different treatments, outcomes (including occupational), and prognosis. The hope is for better understanding of underlying mechanisms, risk factors, rational treatment, and successful outcomes for different groups of patients currently lumped together under the umbrella of "nonspecific" low back pain. That remains the Holy Grail.

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