**The Diagnosis of ‘Chronic Primary Pain’ in the Context of Structural Deformity Needs Better Definition.**

Editor,

ICD-11 allows, for the first time, diagnostic coding of chronic pain providing a major advance for patient care.[8] One useful feature of this new ICD-11 system is the option of applying two or more diagnostic pain codes to characterise a painful state, however the circumstances triggering a diagnosis of ‘primary chronic pain’[7], *in the context of structural deformity* need better definition.

For example, shall we code chronic pain reported at the site of an acquired bunion (FA30.0) as secondary musculoskeletal pain (MG30.31) or should we code it as chronic primary limb pain (MG30.02), or both?

* Given that bunions can be painless, then is a *painful* bunion, associated with dysfunction and/or mood disturbance *always* chronic primary pain?
* Or alternatively, will such patients *never* attract that primary pain diagnosis, because they have a structural deformity, the pain is centred around that deformity, and therefore their pain is secondary?

How will ICD-11 coding address the question of whether the level and nature of pain is appropriate for the severity of deformity?

In surgical settings, these common diagnostic issues are important because surgeons may be willing to offer an operation for ‘secondary’ pain – if there is hope that correction of structural deformity will reduce the patient’s chronic pain and dysfunction; but surgeons will be more hesitant where in addition to the structural pain diagnosis (e.g. bunion-related pain) a patient also has primary pain.

To illustrate, surgeons will rarely operate to relieve pain when a patient has developed the separate primary pain condition CRPS (ICD-8D8A.OZ) in the region of a possibly-by-itself-painful deformity. They rarely perceive that the mechanism underpinning such pain is importantly related to that deformity, rather despite presence of deformity the *main* pain-mechanism is thought of ‘something else’; in fact, operating in that situation, although possibly addressing deformity-related contribution to the patient’s pain is often considered as, on balance risking increase of CRPS pain and hence the patient’s overall pain.

That same structural defect may, however, be operatively addressed if the patient ‘only’ expresses unusually high intensity limb pain without CRPS features. In such cases, in the absence of autonomic signs the question of ‘what else can it be’ cannot easily be answered. We would hope that in the future this ‘*what else can it be’* will become recognized as ‘chronic primary limb pain’, and hesitation to operate may apply similarly as in cases of CRPS, in appreciation of a changed weight of risk vs. benefit.

This diagnostic challenge appears across a range of primary pain conditions. Hauser et al., in a recent review in this journal have highlighted it for chronic pelvic pain associated with endometriosis;[5] as they write ‘..there is no correlation between the extent of the endometriotic lesions and the severity of the pain complaint…’ – then how shall we define the criteria for primary pelvic pain in the presence of endometriosis?

A mechanistic explanation why primary limb pains arise, possibly specifically at sites of deformity may come forward - perhaps similar to that which has been developed about primary pain after trauma, and simple diagnostic tests might be developed [1; 4; 6] – in the meantime introduction of clinical criteria appears useful. For example, we could diagnose patients who for a certain bunion severity report a severity of pain, fatigue, mood disturbance and dysfunction above a percentile of patients with a similar grade bunion severity. A composite score may also be possible, akin to the symptom severity subscale of the American College of Rheumatology criteria for fibromyalgia, i.e. the ‘fibromyalgianess’ score.[2] Research is needed to guide us. High ‘fibromyalgianess’ scores have already been shown to predict poor outcome from surgery for regional deformity[3], however different considerations may apply if such scores together with pain intensity measures are used to guide diagnosis.

For clarity, patients with high symptom severity sometimes develop more widespread pains, at which point the balance of surgical consideration may tip towards interventional hesitation, but the challenge is for those patients where regional pain around a structural deformity predominates.

The potential inherent in the new ICD-11 diagnostic platform should entice us to conduct research to clarify when to diagnose primary chronic pain as a second diagnosis, in situations where patients have a deformity that by itself, through nociceptive or neuropathic mechanisms can be somewhat painful. If we can get this right, then we should be able to avoid the harm and costs arising from futile operations.

Acknowledgements: The authors declare not conflict of interest with regards to this work.

Reference List

[1] Birklein F, Ajit SK, Goebel A, Perez R, Sommer C. Complex regional pain syndrome - phenotypic characteristics and potential biomarkers. Nature reviews Neurology 2018;14(5):272-284.

[2] Brummett CM, Clauw DJ. Fibromyalgia: a primer for the anesthesia community. Curr Opin Anaesthesiol 2011;24(5):532-539.

[3] Brummett CM, Urquhart AG, Hassett AL, Tsodikov A, Hallstrom BR, Wood NI, Williams DA, Clauw DJ. Characteristics of fibromyalgia independently predict poorer long-term analgesic outcomes following total knee and hip arthroplasty. Arthritis Rheumatol 2015;67(5):1386-1394.

[4] Cuhadar U, Gentry C, Vastani N, Sensi S, Bevan S, Goebel A, Andersson DA. Autoantibodies produce pain in complex regional pain syndrome by sensitizing nociceptors. Pain 2019;160(12):2855-2865.

[5] Hauser W, Baranowski A, Messelink B, Wesselmann U. Taxonomies for chronic visceral pain. Pain 2020;161(6):1129-1135.

[6] Helyes Z, Tekus V, Szentes N, Pohoczky K, Botz B, Kiss T, Kemeny A, Kornyei Z, Toth K, Lenart N, Abraham H, Pinteaux E, Francis S, Sensi S, Denes A, Goebel A. Transfer of complex regional pain syndrome to mice via human autoantibodies is mediated by interleukin-1-induced mechanisms. Proceedings of the National Academy of Sciences of the United States of America 2019;116(26):13067-13076.

[7] Nicholas M, Vlaeyen JWS, Rief W, Barke A, Aziz Q, Benoliel R, Cohen M, Evers S, Giamberardino MA, Goebel A, Korwisi B, Perrot S, Svensson P, Wang SJ, Treede RD, Pain ITftCoC. The IASP classification of chronic pain for ICD-11: chronic primary pain. Pain 2019;160(1):28-37.

[8] Treede RD, Rief W, Barke A, Aziz Q, Bennett MI, Benoliel R, Cohen M, Evers S, Finnerup NB, First MB, Giamberardino MA, Kaasa S, Korwisi B, Kosek E, Lavand'homme P, Nicholas M, Perrot S, Scholz J, Schug S, Smith BH, Svensson P, Vlaeyen JWS, Wang SJ. Chronic pain as a symptom or a disease: the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11). Pain 2019;160(1):19-27.