

Burden of Low Back Pain in Human
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Editorial

Low Back Pain (LBP) also called lumbago affects nearly 40% of people at some point in their lives resulting in large economic cost such as loss of income and productivity [1]. New research findings raise concerns about the causes of low back pain in young athletes and adults, and the appropriateness of the imaging methods used to detect the pars inter articularis. Recently, the U.S. Department of Health and Human Services, and the National Institute of Health (NIH), reported low back pain as the second most prevalent neurological affliction in the USA [2].

The science of human development tells us that low back pain has been with human being before the Bronze Age. Hippocrates, nearly 400 BCE, was the first to use the term low back pain. Through the Medieval period, holistic medicine practitioners provided treatments for back pain based on the credence that it was caused by spirits [3]. In the 1920 s, American neurosurgeon Harvey Williams Cushing encouraged surgical treatments for the first time for low back pain [4]. In the 1980 s, the rise of new imaging technologies such as Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) dominated the literature of low back pain with the vertebral disc model [5]. Also include the implication of nuclear medicine methods such as Single-Photon Emission Computed Tomography (SPECT) of the lumbar spine revealing focal increased uptake that may be indicative of spondylolysis [6]. As NIH T32 Research Fellow at Harvard Medical School and Massachusetts General Hospital, I investigated lesion detect ability into pediatric bone SPECT. The work on pediatric bone SPECT with Drs. Georges El Fakhri, Frederic H. Fahey, Jinsong Ouyang, and S. Ted Treves aimed to assess and evaluate the image quality in pediatric bone SPECT by inserting artificial lesions into real clinical studies and thereby ensuring perfect knowledge of the presence and location of each lesion. Pediatric bone SPECT is an important imaging technique because in some cases, bone SPECT may be the only test that reveals the etiology of the patient's pain.

20 years ago, Micheli and Wood [7] reported in the journal, archives pediatric adolescent medicine, that there is a significant difference in the major causes of low back pain in young athletes compared with causes of low back pain in the general adult population. Therefore, Physicians diagnosing back pain in young athletes must consider these differences to avoid erroneous diagnosis and unhealthy delays in proper treatment.

The research community has confronted difficult tasks in finding prevention and treatment plans to reduce the burden of low back pain. In 2012, the national institute of health Pain Consortium identified these obstacles to advance and engaged a committee to find solutions. The committee led by co-chairs Drs. Deyo and Dworkin aimed to advance field-specific standards through a three-stage process of collecting research, meetings to inspect questions in the field, and reflection. At the core of the task force's directions was a standard set of data collection questions intended to widen consistency among studies. "We are hopeful that these research standards will help ensure that the science can be translated into better clinical care", said Josephine P. Briggs, Director of the National Center for Complementary and Alternative Medicine and NIH Pain Consortium Executive Committee member [2].

A recent article by De Luigi [8] published in the journal, physical medicine and rehabilitation clinics of North America, reviews low back pain and the radiologic findings in adolescent athletes. The author reported that bone scan, SPECT, CT, and MRI are all more sensitive than plain radiography in the identification of pars lesions. Therefore, plain radiographs should be followed by nuclear imaging with bone scan or SPECT. It was also concluded that low back pain is frequently encountered in adolescent athletes. Adolescent athletes who present with low back pain are more likely to have structural injuries and therefore should be investigated fully.

Common sense supports the conclusion that clinicians dealing with LBP must have perception of the development and maturation of the adolescent spine and the subsequent injury patterns and other spinal conditions common in the adolescent athlete.

As in any letter to the editor of this type, significant model efforts have been disregarded. To those whose excellent work has not been mentioned, I profoundly invigorate your future submissions to SM Radiology Journal. To those who are inspecting new incursion into the field of Radiology, I stimulate you to join a body of scientists who like to push their intuition and themselves to the boundaries. Finally, I thank the Editorial office for inviting me to join the editorial team.

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