Perception of pain in male and females

Farook Al Azzawi

[1] Gynaecology Research Unit, University Hospitals of Leicester, Leicester, UK

Sexual dimorphism in nociceptive processing and pain responses involves the interactions of a multitude of biological, psychological, and socio-cultural factors. Among these factors are the influences of gonadal steroids that modulate the integration of nociceptive input in the central nervous system. They are to some extent linked to organizational as well as activational processes of gonadal steroids in influencing pattern of neurotransmission. Experimental pain models in animal studies demonstrate these sex-based differences, and in human clinical and experimental settings the data agree to a large extent that women report more severe levels of pain, more frequent pain, and pain of longer duration than men do. Data also suggest female predominance in experiencing pain related to non-sex organs such as irritable bowel syndrome, fibromyalgia, rheumatoid arthritis, and temporo-mandibular disorders. Equally importantly, the evidence exists for a different response to opioid analgesia between sexes. Different pattern of respective receptors expression and/or binding of ligands, as well as differences in collateral association pathways may be responsible. Understanding these basic processes is fundamental to further develop an effective strategy for pain control in men and women.