

Multiple Emergency Department Encounters for Acute Musculoskeletal Presentation with an Existing Mental Health Diagnosis

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TITLE OF CASE

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SUMMARY

Reconceptualising acute Musculoskeletal (MSK) injuries with both stress- and tissue- based factors is required to consider prior influences of mental health disorders on acute persistent musculoskeletal pain presentations involving an extremity. This report highlights repeated emergency presentations for acute persistent musculoskeletal pain involving an extremity for an individual in their 20s living with mental health diagnoses ranging across Depression, Mood Disorders and an eating disorder. This person also had mental health related inpatient admissions that were not captured under the retrospective record review for a large district hospital emergency department using the Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) classification system. This case report attempts to demonstrate that improving the understanding of pre-existing vulnerabilities and mental health diagnoses may assist with informing healthcare design to develop specialised care pathways for acute injury presentations with triage settings.

BACKGROUND

Acute MSK pain represents a common cause for seeking emergent health care (1),(2). While the majority of acutely injured people should expect to recover spontaneously, 50% will transition from acute to chronic pain and disability (3, 4). Data from robust clinical trials (5) and prevalence studies have failed to enable us to adequately identify individuals at risk of delayed recovery from MSK injury, and interventions targeting known risk factors have yielded, at best, only modest effects (6, 7). Furthermore, the most recent output from the global burden of disease in 2019 suggest MSK conditions are a leading cause of civilian years lived with disability. Alarming, this has not changed since 1990, suggesting research has had little effect on reducing the burdens of acute and chronic MSK conditions. Perhaps critical to this long-standing problem is that research has not generated new mechanistic knowledge into why some people recover and others do not following their acute MSK presentation. (8). Perhaps reconceptualising the acute MSK injury (be it a slip-and-fall, motor vehicle collision, fracture, muscle strain affecting the spine or extremities) as both a stress- and tissue-based injury is required to integrate and consider how pre-existing diatheses such as mental health disorders (9) influence the process of recovery. By identifying patients who may be vulnerable to costly negative chronic outcomes, appropriate early screening tools and preventative treatments can be offered to improve clinical outcomes and avoid harmful secondary effects, such as opioid dependency, stigma, poor return to work outcomes, withdrawal from valued life roles, long-term reliance on ineffective and costly management options and repeat emergency department (ED) encounters. For example, people living with mental health conditions tend to experience adverse physical health outcomes and significantly more medical conditions as compared to others without a history of mental health disorders. This is not to suggest the presence of a mental health disorder(s) predisposes a person to a life of chronic pain following adulthood injury requiring emergent care. While it is acknowledged that the Emergency Department environment presents a challenge, if not a trigger, to both busy, time-strapped, clinicians, and the patients themselves, knowledge of pre-existing diatheses could inform and streamline new clinical pathways for acute MSK injury on a patient-by-patient basis. The case of a Caucasian woman in her twenties seeking repeated ED management over a 7 year period is used to highlight the challenges for both the patient and the healthcare providers in, and beyond, the ED.

CASE PRESENTATION

The repeated voluntary ED presentations (38 visits over 7 years, from January 2015 – February 2021) were observed to be for persistent musculoskeletal pain, involving an extremity and upper limb pain. Pre-existing diagnoses of Mood Disorder, Depression, and an Eating Disorder (Anorexia Nervosa) were recorded at each ED presentation of persistent MSK pain involving an extremity, and while considered, did not feature in the clinical work-up. The retrospective record review was approved by the Northern Sydney Local Health District Human Research Ethics Committee, ethics approval number – 2021/STE02301: SSA. *Design* Retrospective interrogation of electronic medical records obtained from January 2015 until July 2021 capturing relevant data for acute presentations of MSK pain intersecting with mental health admissions over the preceding 12-month periods at a district hospital Emergency Department. *Setting* Emergency department triage facility for a large urban district hospital serving a catchment of over 1.5 million people. *Subject* A case report of an individual in their twenties, with multiple ED presentations (38 visits) over a 7 year period, classified by the treating ED physician/clinicians using the SNOMED CT system at each presentation. The SNOMED CT is defined as a standardised, multilingual vocabulary of clinical terminology containing more than 300,000 medical concepts used by health care providers within the electronic exchange of clinical health information (10, 11) . The SNOMED CT is made up of the numerical codes, known as concepts, used to identifying clinical information. The number of concepts used are largely if not completely dependent on the clinical setting and patient census. In this case, the number of concepts available in a busy urban ED with level 1 trauma status is in the thousands. The concepts are divided into different groups such as body structure, clinical findings, geography, location and biological products represented by different concepts based on the complexity of the presenting condition. The terminology classifies presentations under findings, disorders, diagnoses and similar with individual numbers. SNOMED CT classifies “findings” as observations which may be objective or subjective information from a primary source, including human observation whereas the term “disorder” refers to as an abnormal clinical state and are classified under the hierarchy of disease (10). SNOMED CT however also tends to be subjective and have the same description while referring to different concepts due to the ambiguity dependant on the triage (12). The ED admission data captured the date, the patient’s reason for the visit to ED, MSK diagnosis provided at triage, and the pre-existing MH diagnosis. Under SNOMED CT, findings refer to observations that exist at the time of recording, while disorder suggests an abnormal and underlying psycho-physical pathological process that remains a vulnerability even post completion of treatment (11). As summarised in Table 1, the repeated MSK/ acute pain related presentations observed over the 2-year period were for persistent musculoskeletal pain involving an extremity(11). There were multiple mental health related admissions separate to the acute MSK pain presentation at ED over this period recorded initially for an unspecified mood (affective) disorder, progressing to Dysthymia/ Mood Disorder, followed by a separate admission for Post-traumatic stress disorder (PTSD), a further mental health admission for Dissociative convulsions, and the last captured admission was for Anorexia Nervosa (classified under Eating Disorder/s). Information regarding social circumstances, such as living independently or in supported accommodation, employment or education status, social supports both informal and formal including community mental health services, General Practitioner and any non-governmental organisations involvement was not available.

DISCUSSION

This case study highlights the repeated presentations to a local emergency department. The available data details at least 38 encounters for acute MSK-related pain or injury, for a seven year period ending in Feb 2021; remarkably, 28 of which were within one calendar year (2015). Upper limb pain and persistent MSK pain involving an extremity were the main reasons for ED presentation. However, no further mental health presentations for the ED or specialist care were identified which may be due to the type of data captured (or not) in the retrospective records. The final mental health diagnosis provided in April 2017 reports a first-time diagnosis of Anorexia Nervosa. It is important to note that up to 40% of people diagnosed with Anorexia Nervosa have comorbid personality disorders across the Cluster B traits, which are defined by the DSM as including impulsive behavioural patterns along with compulsive traits (13). Existing evidence suggests that pain is implicated in higher rates of generalised anxiety disorder (GAD), post-traumatic stress disorder (PTSD) substance misuse and other comorbid disorders (14) resulting in a further reduction in functionality, recalcitrant treatment response and increased health care costs. It appears that people living with mental health conditions receiving inadequate treatment remain at risk of experiencing other comorbid health conditions and it remains plausible that the repeated acute pain/ MSK presentations observed may be due to an unrecognised eating disorder phenotype. An improved understanding of pre-existing vulnerabilities/resiliencies associated with repeated acute care presentations and triage processes may inform healthcare redesign to streamline more bespoke care pathways for people with acute MSK injury. It is acknowledged that people living with a mental illness experiencing concomitant physical symptoms, which in turn results in a shortened life span, increased comorbidities, a lowering in their quality of life due to a mix of disparity in healthcare access and utilisation (15). Unfortunately, these physical symptoms have been largely attributed to underlying psychiatric conditions (16). It is our belief that living with a mental illness may lead to a delay in establishing the correct diagnosis and intervention required to adequately address the physical and mental signs/symptoms, which could result in an inappropriate plan of care on discharge from the ED. Early onset mental health disorders have shown to increase risk for lifelong adversity (17), contributing to health inequity. There are several studies on the observations of, and reporting on, an increasing number of young people presenting to the ED with mental health disorders (18). The intensely stimulating environment of the ED may prove a therapeutic challenge for an acutely injured person with or without history of previous mental health disorders. The trauma, distress, pain, and expectations around recovery are complex for people living with a mental illness. Adding to this complexity are pre-existing stress, pain, mental ill-health, and early life adversity as all could influence the clinical course on a patient-by-patient basis following acute injury. Such complexity can, and likely does, place further demands on the resources within an ED workforce and resources (19). **Limitations** The retrospective data collection is limited over the time period captured between 1 January 2015 to 31 July 2021 at the single ED location looking for only acute MSK pain presentations with limited information gathering about any triggers prior to presentation and existing supports and services. We do not have further available information on the young person attending other hospital EDs in addition to the district hospital ED within the catchment area, largely, if not completely, due to a lack of communication between hospital EMRs. Our retrospective record review data interrogated set points in time and does not capture all the information from specific presentations. Further, a lack of information around the methods of classification of the data obtained at the time of presentation also hampers the interpretation of the data collected from the retrospective record review. This is a case report based on the retrospective study of de-identified data and it was not possible to provide the patient's perspective.

LEARNING POINTS/TAKE HOME MESSAGES

Future work should aim to refine chart review data towards identifying any patterns observed within specific groups and explore interventions offered and the relative efficacy of these care pathways between people living with a significant mental disorder/ illness as compared to others. It is also important to explore unconscious bias displayed by the clinicians while documenting the intensity of pain in the presence of mental ill health and the capacity of the person presenting at an emergency setting to offer appropriate interventions and discharge care pathways. We raise this case to stimulate awareness and encourage multidisciplinary discussion that reconceptualising acute MSK injury event as both potentially injurious and distressing, influenced by pre-existing vulnerabilities or resiliencies of the person and the socioenvironmental context within which the person lives and functions. Also, that under-recognised pre-existing psychopathology may represent as a risk-factor for poor recovery from an MSK presentation. While challenging, unrecognised vulnerabilities could promote multiple ED presentations and an incomplete diagnostic and therapeutic landscape. This single-study case followed the repeated ED admissions for recurrent experienced by a young female person in a district hospital ED for repeated acute MSK concerns while living with pre-existing mental health issues.

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