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## The BMJ Press Release

### Patients with cancer at heightened risk of injuries during diagnosis

*Study provides evidence for clinicians and policy makers to develop prevention strategies*

Patients with cancer have heightened risks of unintentional and intentional injuries during the diagnostic process, reveal findings from a large study published by **The BMJ** today.

A range of injuries are common and some are potentially life threatening, the study shows, and the authors call for “the prevention of intentional and unintentional injuries during the diagnostic process of cancer.”

These include unintentional injuries arising from medical complications and treatments, such as infections or bleeding after invasive treatment, and other types of injuries, such as bruising or fractures from self harm and accidents.

The team of international researchers analysed all injury related hospital admissions in Swedish patients with cancer between 1990-2010. They compared a diagnostic period—16 weeks before and after diagnosis—with a control period the year before diagnosis.

Among 720,901 patients, there were 7,306 injuries from medical complications and drug treatments, and 8,331 injuries resulting from accidents and self harm, that resulted in hospital admission during the diagnostic period.

The result for medical related injuries is “not surprising because patients often undergo invasive diagnostic and therapeutic procedures and acquire other comorbidities related to the progressing malignancy and its treatment,” say the authors.

Patients with central nervous system and colorectal cancers had a 14.7-fold and 11.5-fold risk increase in these types of injuries, “probably reflecting the higher degree of complication associated with more extensive diagnostic procedures and treatments” compared to other cancers.

Patients who were younger, cohabiting, and had a higher socioeconomic status or education, and with no pre-existing psychiatric disorder, had a higher risk of injuries from medical complications, compared to other groups of patients during the diagnostic process.

Risk of other types of injuries from self harm and accidents was also common. There was a 5.3-fold risk increase during the two weeks before diagnosis, suggesting that psychological stress is high when patients are expecting a diagnosis.

Patients with central nervous system, hematopoietic, and lung cancers had 2.8-fold, 2.8-fold and 2.5-fold risk increases, respectively, of self harm and accidental injuries. Meanwhile, patients with non-melanoma skin cancer—which has relatively benign predicted prognosis—had the smallest increase relative to other patients.

Older patients, and those with lower socioeconomic status or education had slightly greater increases in risk of unintentional injuries compared to other groups—they might be “more vulnerable because they are facing a stressful life event,” explain the authors.

Estimates are conservative, however, because the study did not account for injuries that failed to result in a hospital admission nor those that were fatal.

“Some injuries are hard to prevent completely given the intensive diagnostics and treatment during the diagnostic period for cancer,” explain the authors.

Furthermore, this was an observational study so no firm conclusions about cause and effect can be made.

But they say “our study sheds light on the high risk types of cancer and groups of patients, providing first hand evidence for clinicians and policy makers to develop targeted prevention strategies.”

In a linked editorial, Professor Holly Prigerson from Weill Cornell Medicine and colleagues, say the study suggests "that clinicians and researchers should pay more attention to the negative influence of a diagnosis of cancer on the health and well-being of patients."

They discuss interventions that may help to reduce injuries and harm, such as offering coping strategies to help manage anxiety, fears, and help patients regain a sense of control. In addition, oncologists could team up with mental health providers to reduce distress and psychological symptoms, and support patients with low self efficacy.

They conclude: “Patients cannot undo their diagnosis, but effective and empowering interventions could limit the extent to which they become undone by it.”

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**Note to Editors:**

Research: Injuries before and after diagnosis of cancer:  
nationwide register based study

<http://www.bmj.com/content/354/bmj.i4218>

Editorial: The hidden dangers of a cancer diagnosis

<http://www.bmj.com/content/354/bmj.i4446>

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