

## Hemispheric Locus and Gender Predict the Delay between the Moment of Stroke and Hospitalization

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**Abstract :** Background: The number of people experiencing stroke is steadily increasing due to changes in diet and lifestyle, to longer life expectancy resulting in older population, to higher survival rates as a consequence of improvements during the acute phase. This study considers what risk factors might contribute to delayed entry to hospital for treatment. Methods: We analyzed data from 2472 patients admitted to the Stroke Unit of the Royal Brisbane Women's Hospital, Australia, between 2002 to 2011. Results: Previous studies have reported that factors which can contribute to delay include the patient's age, the time of day, physical location, visit the GP instead of going to the emergency, means of transport, severity of symptoms and type of stroke. Contrary to findings of other studies, we found a strong correlation between side of lesion and delay in admission: patients with right hemisphere lesions had an average delay of 3.78 days, while patients with left hemisphere lesions had an average delay of 1.49 days. Damage to the right hemisphere generally ends in motor impairment in the non-dominant hand and no speech impediment. In contrast, left hemisphere lesions can result in deficit to; dominant hand function and aphasia which will be noticed even if their impact on performance is relatively minor. A finding which goes against many previous studies, is the fact that women get to the hospital much sooner than men, showing an average delay of 0.92 days in women vs. 3.36 days in men. Conclusion: Acute surgical-pharmacological therapies are most effective if applied immediately after stroke. Hence delays to admission can be crucial to the degree of recovery. The tendency of patients to overlook symptoms of right hemisphere lesion should be the target of information campaigns both for the general public and GPs. Why do men go to hospital so late? We don't know yet! Nevertheless an awareness plan specifically direct to male population should be on the agenda of Health Departments.

**Keywords :** gender, admission delay, stroke location, bioinformatics, biomedicine

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