## Dr Phillip Bland

Ischaemic stroke is rare in premenopausal women but risk increases with advancing age and doubles in the ten years following the menopause. Up to the age of 75 years men have a $25 \%$ higher risk of suffering a stroke compared with women. However, the increased life expectancy of women ultimately results in a higher overall incidence. Twice as many women die from stroke compared with breast cancer.

Women with cerebrovascular disease are more likely to present with atypical symptoms than men. Altered mental status (including unresponsiveness, confusion and behavioural change) is the most common nonconventional symptom, and is reported by $23 \%$ of women compared with $15 \%$ of men. Other nonconventional symptoms reported more commonly by women include face or hemibody pain, lightheadedness and headache.

## Contrary to expectation, the use of exogenous

 hormones is associated with an increased risk of stroke in postmenopausal women. The Women's Health Initiative trial found that hormonal treatment of otherwise healthy postmenopausal women increased the risk of ischaemic stroke by 44\%. The association between hormone replacement therapy, ischaemic stroke and severity of stroke has also been confirmed by large meta-analyses. There is a small increase in the risk of stroke in younger women using oral contraceptives ( 1.4 to 2 fold) compared with non-pill users, which represents a lower risk than that associated with pregnancy.Pregnancy is a unique risk factor for stroke in women. The risk is highest in the third trimester and peripartum period. Physiological adaptations to pregnancy, such as reduction in circulating antithrombotic factors leading to a prothrombotic state, combined with venous stasis and dehydration secondary to the sudden reduction in circulating blood volume post delivery, are thought to be the mechanisms leading to increased risk. Women with hypertension in pregnancy, whether secondary to pre-existing disease, preeclampsia or eclampsia have a six- to nine-fold increased risk of stroke compared with normotensive women. Preeclampsia doubles the risk of stroke in later life. Gestational diabetes is also associated with higher risk of stroke extending beyond childbearing years.

Atrial fibrillation (AF) and hypertension, although less common than in men, are more potent risk factors for stroke in women. Compared with men with AF, women with AF are at increased risk of ischaemic stroke ( $6.2 \%$ versus 4.2\% per year). This increased risk persists in anticoagulated patients with a relative risk ratio of 2.0.

