diagnosis and treatment of mental illnesses. A substantial proportion of young people who commit suicide may have an untreated, under treated, or undiagnosed mental illness.

The rate of suicide was even greater in females admitted with a mental illness, confirmed by a recent study of suicide in adults.²¹ The most likely explanation for this is that young males, not treated for mental illness had a higher suicide rate than their female counterparts. Furthermore, the rate is strongly linked to disorders that are more common among females; in our study all but schizophrenia.²²

We found that mental illness in young people and a family history of suicide and mental illness were the most important risk factors for suicide among young people. Therefore an important target in the prevention of suicide in young people would be the early recognition and treatment of mental illness. Improved psychopathological assessment and treatment after discharge from psychiatric facilities could therefore help decrease suicide rates. However, as only 30% of the suicides in our study could be attributed to these factors, preventive measures should be aimed at the general population.

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Drug points

Interaction between warfarin and topical miconazole cream

A Devaraj, J P O'Beirne, R Veasey, A A Dunk, Eastbourne District General Hospital, Eastbourne BN21 2UD

Miconazole is a broad spectrum antifungal agent. When co-administered with warfarin it may increase the anticoagulant effect of the warfarin by inhibiting hepatic microsomal cytochrome P-450 enzymes.¹ Trace amounts of miconazole have been detected systemically after topical administration.² An interaction of warfarin with miconazole oral gel and pessary formulations has also been reported.³⁻⁵ We report the loss of control of anticoagulation in a patient taking over the counter miconazole cream for flexural intertrigo.

An 80 year old man had been taking warfarin long term for atrial fibrillation, and his mean dose over the preceding 12 months was 6 mg daily. This dose had kept his international normalized ratio between 2.2 and 3.1, but at a routine appointment it was found to be 21.4, although there had been no evidence of bruising or bleeding. He denied any change to his normal warfarin dose and had continued with his other usual once daily drugs (atenolol 50 mg, isosorbide mononitrate 20 mg, and diltiazem 400 mg). However, he had been applying topical miconazole cream for a fungal infection over the right groin area during the previous two weeks. He was admitted to hospital,

where his warfarin and miconazole were withdrawn and he was given fresh frozen plasma. His international normalized ratio returned to 3.2 and his warfarin was reinstated five days later at a daily dose of 6 mg. Since he was discharged he has remained on warfarin 6 mg and his international normalized ratio has been stable.

In the absence of other explanations, we assume that topical absorption of miconazole had occurred, which led to loss of anticoagulant control. On the basis of this and reports about other topical formulations, patients taking warfarin should be advised to avoid any form of treatment with miconazole. If this is not possible, control of anticoagulation must be monitored closely.

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