commissures and unaccompanied by a systolic click. Of patients with a dysplastic pulmonic valve, many will have Noonan syndrome. Conversely, many patients with Noonan syndrome and pulmonic stenosis will have a dysplastic pulmonic valve. This 'atypical' and less common type of valvar pulmonic stenosis is distinctive for Noonan syndrome and unlike typical pulmonic stenosis is not amenable to balloon dilatation valvuloplasty.

The precise diagnosis of a highly specific congenital heart defect in a malformation syndrome is of equal importance as the identification of craniofacial dysmorphism.

ANGELA E LIN
Department of Medical Genetics,
West Penn Hospital,
Pittsburgh,
Pennsylvania 15224,
USA.

Reference

- ¹ Allanson JE. Noonan syndrome. *J Med Genet* 1987;24:9-13.

The population genetics of Duchenne muscular dystrophy

SIR,

I am indebted to Dr A O M Wilkie for pointing out an error in equation 14 (p 523) in a recent paper,¹ due to my overlooking the contribution from new mutations of grandmaternal origin. An additional 'u' in this equation leads to the paternal:maternal ratio of mutational rate being equal to the $4g/(1-2g)$, and a sixth, not a fifth, of mutations being from the maternal grandfather if these rates are equal.

J H EDWARDS
Genetics Laboratory,
Department of Biochemistry,
University of Oxford,
South Parks Road,
Oxford OX1 3QU.

Reference

- ¹ Edwards JH. The population genetics of Duchenne: natural and artificial selection in Duchenne muscular dystrophy. *J Med Genet* 1986;23:521-30.