In our study five of six index children (38% of families) who presented with motor or psychomotor delay could have been diagnosed if all children who had not walked by the age of 18 months had had their creatine kinase activity estimated, as suggested by Gardner-Medwin.[3] A further seven (44% of families) presented with clumsiness of gait or excessive falling. Diagnosis in such cases requires familiarity with the typical Duchenne waddle and abnormal consistency of the calf muscles. Finally, no doctor should do or recommend Achilles tendon lengthening operations until the aetiology is firmly established. Against a background of a relatively rare but important disease—whose prevalence of 3/100 000 means that a considerable number of family practitioners will have no case on their panels—a series of well designed circulars sent to all relevant practitioners, together with financial support for attendance at clinical demonstrations, could provide a real and inexpensive alternative to a newborn screening programme. Such a programme would also circumvent the problem of causing unnecessary distress to parents by diagnosing an incurable disease in the neonatal period.[3]

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[1] Zellweger H, Antonik A. Newborn screening for Duchenne muscular dystrophy. *Pediatrics* 1975;**55**:30-4.
[2] Anonymous. Screening of the newborn for Duchenne muscular dystrophy. *Br Med J* 1975;ii:403-4.
[3] Gardner-Medwin D. Controversies about Duchenne muscular dystrophy. *Dev Med Child Neurol* 1979;**21**:390-3.
[4] Harper PS, O'Brien T, Murray JM, Davies KE, Pearson PL, Williamson R. The use of linked DNA polymorphisms for genotype prediction in families with Duchenne muscular dystrophy. *J Med Genet* 1983;**20**:252-4.
[5] O'Brien T, Harper PS, Davies KE, Murray JM, Sarfarazi M, Williamson R. Absence of genetic heterogeneity in Duchenne muscular dystrophy shown by a linkage study using two cloned DNA sequences. *J Med Genet* 1983;**20**:249-51.

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Plasma prolactin concentrations in a large population of healthy old people

The physiological importance of the change in dopaminergic mechanisms during aging has been clearly established. In both animals and man the function of presynaptic and postsynaptic dopaminergic mechanisms is altered during later life with a considerable decrease in synthesis and receptor function.[1-4] In vivo measurement of dopaminergic function in man is difficult owing to the lack of variables that accurately reflect such function. Although plasma prolactin concentrations reflect the result of various neuronal interactions, dopamine is thought to exert an important inhibitory control on release of prolactin. Thus an age dependent reduction of dopaminergic function in the tuberoinfundibular system might induce an increase of plasma prolactin concentrations. We carried out a study to investigate this.

Subjects, methods, and results

We have carried out a large scale study of a homogeneous population of elderly people in the small town of Ome (Lombardy, northern Italy), studying the general health of the inhabitants aged over 59 and checking certain clinical and biochemical variables indicative of specific diseases.

We measured plasma prolactin concentrations in 260 old people. Blood was collected from the brachial vein between 0700 and 0900 always in the same environment and by the same medical team. Prolactin concentrations were measured by radioimmunoassay using a commercial kit (Amersham International, England). No evidence of endocrinological or neuropsychiatric disease was detected.

Among women plasma prolactin concentrations were significantly higher in those aged 74-78 and those aged 79 and over than in those aged 59-63 (table), and a significant correlation was found between age and plasma prolactin concentrations ($p < 0.05$). By contrast, no age related differences were observed in the men. Surprisingly, the mean plasma prolactin concentration in the men as a whole was the same as that in the women, although in younger people (aged below 45) concentrations are lower in men.

Correlation between age and mean (SD) plasma prolactin concentrations in healthy old people

Age group (years)	Women		Men	
	Prolactin (ng/ml)	n	Prolactin (ng/ml)	n
59-63	7·91 (3·96)	53	10·41 (5·20)	34
64-68	9·30 (4·72)	30	10·21 (4·55)	29
69-73	9·00 (4·13)	33	9·03 (4·42)	32
74-78	10·15 (5·01)*	21	8·80 (2·05)	10
⩾79	10·36 (3·58)*	13	9·10 (2·95)	5

*$p < 0.05$ compared with women aged 59-63 (two tailed Student's t test).

Comment

It is possible that the inhibitory dopaminergic control on secretion of prolactin in the men had already reached a plateau at earlier ages. In contrast, it is possible that in women the dopaminergic control of secretion of prolactin becomes more important at the end of the fertile period. After this period the derangement of dopaminergic transmission leads to a small but important increase in secretion of prolactin.

The significant increase in plasma prolactin concentration detected confirms the hypothesis that dopaminergic function is decreased in older women. The increased incidence of breast tumours observed at this age may depend on the changes in plasma prolactin concentrations. The data also indicate that a mild dopaminomimetic drug may be useful in treating the typical disturbances induced by aging.

[1] Govoni S, Loddo P, Spano PF, Trabucchi M. Dopamine receptor sensitivity in brain and retina of rats during ageing. *Brain Res* 1977;**138**:565-9.
[2] Finch CE. Catecholamine metabolism in the brain of ageing male mice. *Brain Res* 1973;**52**:261-76.
[3] Trabucchi M, Spano PF, Govoni S, Riccardi F, Bosio A. Dopaminergic function during aging in rat brain. In: Giacobini E, Filogano G, Vernadakis A, eds. *Aging*. Vol 20. New York: Raven Press, 1982: 195-201.
[4] Cotzias GC, Miller ST, Tang LC, Papavasiliou PS, Wang YY. Levodopa, fertility and longevity. *Science* 1977;**196**:549-51.

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Morbidity in diabetic and non-diabetic patients after major vascular surgery

Postoperative morbidity is generally thought to be higher in diabetics,[1 2] but there are no reports of studies that have included matched non-diabetic controls. We carried out a study to investigate postoperative morbidity in diabetics undergoing major vascular surgery and in non-diabetic controls matched for type of surgery, age, sex, weight, and complicating diseases.