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Short Report

THE EFFECT OF TESTOSTERONE ON DELAYED PUBERTY IN CYSTIC FIBROSIS

S. Mukhopadhyay and F. Carswell, Department of Child Health, University of Dundee and Institute of Child Health, University of Bristol

Cystic fibrosis (CF) is associated with delayed puberty[1] of uncertain aetiology. The onset of puberty in these circumstances can be expected to improve physical status and to boost morale. The simplest way to stimulate puberty and growth is to administer physiological amounts of testosterone for up to 6 months; this is generally sufficient to stimulate bone and physical maturation to a point where pubertal development will continue spontaneously.[2]

TABLE

Measurements before and after treatment

Patients	*1*		*2*		*3*		*4*	
	Pre	*Post*	*Pre*	*Post*	*Pre*	*Post*	*Pre*	*Post*
General								
Height Velocity	3·4	6·0	3·8	7·0	8·3	6·0	5·3	7·0
Weight Velocity	5·0	−2·0	9·0	1·0	4·0	4·0	2·5	8·0
Bone age Years	10·0	12·5	11·5	13·5	10·5	12·8	11·5	14·0
Chronological age Years	14·2	15·2	14·8	15·8	13·5	14·5	14·3	15·3
Endocrine (serum levels)								
Testosterone (nmol/l)	<0·5	<0·5	0·6	<0·5	0·9	2·5	0·3	3·8
TSH (mu/l)	1·2	0·8	1·1	1·3	1·0	1·9	2·1	1·1
LH (IU/l)	2·4	4·4	1·9	1·5	2·2	—	4·1	4·4
FSH (IU/l)	<1·0	1·8	<1·0	<1·0	1·4	7·4	1·7	1·8
Respiratory function								
FEV_1 (% mean pred)	52	46	26	18	13	18	73	62
FVC (% mean pred)	66	60	47	24	32	21	70	63

General, endocrine and respiratory status of the 4 subjects before and 6 months after completion of the testosterone therapy.

FEV_1 = forced expiratory volume in 1 second (as % of mean predicted).

FVC = forced vital capacity (as % of mean predicted).

Height (cm/yr) and weight (kg/yr) velocities compare the velocities over the year immediately prior to start of therapy with the year which includes the 6 months of therapy and the six months immediately after.

PATIENTS AND METHODS

Four clinically prepubertal male patients with CF aged 13·5 years and above and attending the CF clinic at the Bristol Children's Hospital were assessed for height, weight, routine spirometry, bone age[3] and serum lutenising hormone (LH), thyroid stimulating hormone (TSH), follicle stimulating hormone (FSH) and testosterone levels. All 4 patients had (a) stage 1 genitalia and pubic hair distribution,[4] (b) heights below the third centile, (c) a bone age at least 2 years below their chronological age, and (d) serum testosterone level below 1 nanomole/litre.

All 4 patients were treated with 125 mg testosterone oenanthate (corresponding to 90 mg testosterone) intramuscularly once every month for 6 months after which the tests were repeated.

DISCUSSION OF RESULTS (TABLE)

Serum testosterone increases in patients 3 and 4 reached pubertal levels[4] with weight gains of 4 and 5·5 Kg respectively. The serum FSH level increased in only one patient. Genitalia and pubic hair measurements reached stage 2 and 3[5] in all four subjects.

Height velocity increased in 3 of the 4 similar to that in a previous report[6] and improved morale and confidence in all. Spirometry showed no change in the pattern of decline in respiratory function during the six months.

The results suggest that further study of the use of physiological doses of testosterone to eliminate the physical and psychosocial consequences of delayed puberty in male subjects with cystic fibrosis in justified.

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TROPICAL MEDICINE IN THE TWENTIETH CENTURY: A REAPPRAISAL OF SOCIO-POLITICAL DETERMINANTS

Helen Power, Liverpool School of Tropical Medicine/Department of Economic and Social History, University of Liverpool*

A programme on radio 4 provided an opportunity to discuss the importance of medical history in understanding health care in former tropical colonies—regions which now constitute much of the 'third world'. It was argued that not only has present health care policy been influenced by the past, but, the content of current research in tropical medicine is determined by factors rooted in the past priorities of colonial medicine.[1]

The effects of social and political determinants on the provision of health care are now commonly reflected in the history of medicine, but the emphasis on these factors may turn attention away from the internal history of medical science and research. In the case of tropical medicine, interest in the power relationship of the colonized and the colonizers has dominated the social construction of western medicine as practised in non-western environments. To match the increasing interest in the cultural role medicine has played in the tropics, the medical research agenda also needs further exploration. A critical analysis of the social and political environment in which medical and scientific professionals worked needs to be balanced by understanding tropical medicine as a biomedical science of the twentieth century.

The history of tropical medicine has recently been reappraised. It is acknowledged afresh that western medicine has been practised in the tropics for several hundred years. Ships undertaking voyages of exploration and discovery were staffed with a surgeon who in addition to dealing with problems like scurvy and injuries due to accidents and warfare also encountered the 'exotic' diseases of the tropics.[2] Ague was well known in Britain, but the variety and severity of tropical fevers fell outside normal medical practice; similarly the fluxes. The tropical environment itself was seen as inimical to European habitation.[3].

Clinical and empirical research was undertaken by the army doctors charged with the care of the British Army overseas. The Indian Medical Service, dating back to the days of the East India Company, served the Indian sepoys and white civil servants of the Raj.[4] Practitioners in the Colonial Medical Service were deployed in the islands of the West Indies and newer territories in Africa. Medical and non-medical missionaries worked all over the Empire offering care and conversion. Much less is known about the private practitioners who worked overseas, but a glance at the monographs of the eighteenth and nineteenth centuries gives a good idea of the range of issues encountered by doctors abroad.

Imperial, colonial and commonwealth history have their own established historiography, but usually with little focus on disease and its implications.[5] Interdisciplinary work has sought to incorporate medical issues into existing views of economic and political history. Historians who work on a particular geographic region have used the medical experiences to widen their arguments about

*Wellcome Research Fellow.