



This research was supported by a grant from The Health Systems Trust. SAMA, its branches and affiliated organisations that responded to the request for information, are thanked for their co-operation. Assistance received from the HPCSA, the Medical and Dental Professional Board and the CMSA is gratefully acknowledged. The Women in Medicine Workgroup and Mrs R Cowley, research assistant, provided invaluable support.

References

- Zwarenstein M, Youngleson M, Botha JL. Validity of the register of medical practitioners for manpower planning. *S Afr Med J* 1989; 76: 105-108.
- Pringle R. *Sex and Medicine*. Cambridge: Press Syndicate of the University of Cambridge, 1998.
- Clearihan L. Feminisation of the medical workforce. Is it just a gender issue? *Aust Fam Physician* 1999; 28: 529.
- Roter DL, Hall JA. Why physician gender matters in shaping the physician-patient relationship. *J Womens Health* 1998; 7: 1093-1097.
- Burrows EH. *A History of Medicine in South Africa Up to the End of the 19th Century*. Amsterdam: Balkema, 1958: 350-367.
- Walker L. 'Since male doctors were pushing us aside, we had to elbow our way through'. A history of the SA Society of Medical Women. *S Afr Med J* 1997; 87: 1505-1507.
- Scherzer E, Freedman J. Physician Unions: Organizing women in the year 2000. *J Am Med Womens Assoc* 2000; 55(1): 16-29.
- Cartwright LK. Occupational stress in woman physicians. In: Payne R, Firth-Cozens J, eds. *Stress in Health Professionals*. Chichester: Wiley, 1987: 71-87.
- Hitchcock MA, Bland CJ, Hekelman FP, Blumenthal M. Professional networks: The influence of colleagues on the academic success of faculty. *Acad Med* 1995; 70: 1108-1109.
- Roeske NCA. Women, leadership and political activism. In: Dickstein L, Nadelson CC, eds. *Women Physicians in Leadership Roles*. Washington, DC: American Psychiatric Press Inc, 1986: 319-332.
- Lorber J. What impact have women physicians had on women's health? *J Am Med Womens Assoc* 2000; 55(1): 13-25.
- Kirschstein RL. Women physicians — good and bad news. *N Engl J Med* 1996; 334: 982-983.
- Allen D. Women in medical specialty societies. *JAMA* 1989; 262: 3439-3443.
- Werker D. Chauvinism in the medicopolitical arena. *Can Med Assoc J* 1988; 139: 702.
- Kazimirski J. Is there a glass ceiling? Proceedings of the 2nd North American Regional Meeting of the Medical Women's International Association. Washington: American Medical Women's Association, 1997.
- Bickel J. *Building a Stronger Women's Program: Enhancing the Educational and Professional Environment*. Washington, DC: Association of American Medical Colleges, 1993.
- Maddock S. Women doctors: Multiprofessional working in health care. *Br J Hosp Med* 1997; 57: 349-350.

Accepted 11 July 2002.

Congenital eunuchism and Favorinus

F P Retief, J F G Cilliers

Ancient Hebrew literature as well as the New Testament differentiate between castrated eunuchs and congenital eunuchs. Congenital eunuchism is very rare today, and assuming that this was also the case in classical times, we investigated possible reasons why congenital eunuchs feature prominently. We discuss the probability that the concept 'congenital eunuchism' might in ancient times have included effeminate men who, according to cultural views on 'maleness' and androgyny, were almost equated with eunuchs. The causes of congenital hypogonadism are

reviewed in order to attempt clarification of the condition of Favorinus, a congenital eunuch in the second century AD. We suggest that although he might have been a true hermaphrodite, as suggested by some authors, it is more likely that he had one of the following conditions: functional prepubertal castrate syndrome, testicular gonadotrophin insensitivity, selective gonadotrophin deficiency or Reifenstein's syndrome.

S Afr Med J 2003; 93: 73-76.

In ancient Hebrew the word for eunuch was *saris*, and a distinction was made between *saris adam* (eunuch castrated by man) and *saris hamma* (congenital eunuch).¹ In the Bible the evangelist Matthew also distinguishes between kinds of eunuchs: 'For some are eunuchs because they were born that way; others were made that way by men; and others have

renounced marriage because of the Kingdom of Heaven' (Matthew 19:12).² The third category obviously refers to celibacy rather than eunuchism, but this passage again distinguishes between acquired and congenital eunuchism. While eunuchism resulting from castration is a well-researched field, the subject of congenital eunuchism remains vague. In an excellent overview, Levinson³ shows that apart from medical considerations, ancient rabbinical views on androgyny (hermaphroditism) and the essence of 'maleness' might well have influenced views on the nature of eunuchism. However, in the figure of Favorinus of Arles we have a person from the second century AD described by his contemporaries as a

Department of English and Classical Culture, University of the Free State, Bloemfontein

F P Retief, MB ChB, DPhil (Oxon), MD, MRCP, FRCP, PhD

J F G Cilliers, BA, MA, DLittPhil, DLitt



congenital eunuch.⁴ In this study the concept of congenital eunuchism in classical times is reviewed, with Favorinus as role model.

Favorinus⁴⁻⁷

Born as a Gaul in Arelate (present-day Arles, France) in approximately AD 85, Favorinus received most of his education in Massiliā (Marseilles), where he became proficient in Greek, and soon gained a reputation in rhetoric. He preferred to speak Greek and it was said that he spoke so enthusiastically and eloquently that even those who did not know Greek came to listen to his oratory. He moved to Rome and then visited Athens, Corinth and Ionia, gradually establishing a reputation as a philosopher and teacher. Among his pupils were prominent figures such as Herod Atticus, Gellius and Fronto, who remained lifelong friends. He knew Plutarch, and as a philosopher joined the second sophist movement with great admiration for Aristotle. In recognition of his status, Athens and Corinth erected bronze effigies of him.

While in Ephesus, Favorinus became involved in public debates with a fellow sophist and orator, Polemon, benefactor of Smyrna, and gradually this turned into a competition between the two cities. The oratory became acrimonious and was diverted to Rome where they vied for the emperor's favour, with consuls taking sides in the debate. Polemon admitted the popularity of Favorinus but put it down to sorcery, and expanded on the latter's eunuchism, arguing that this made him an inferior being: '... a eunuch born without testicles, rather than castrated. I doubt whether you could find anyone of this type apart from the one who was from the land known as that of the Celts. He was lustful and dissolute beyond all measure, for his eyes were those of the worst type of man... he had a puffy forehead, soft cheeks, a wide mouth, a long, thin neck, thick legs and fleshy feet. His voice was just like a woman's, and all the rest of his limbs and extremities were soft; and he did not walk upright, but with slack joints and limbs. He took great care of his person, (by nourishing) his thick hair, and by rubbing medicaments into his body, in short, using anything to arouse desire for sex and coitus. He had a voice like a woman's, and thin lips. In the whole human race, I never saw anything like him or his eyes.'⁴

Polemon even accused Favorinus of infidelity with a consul's wife. In due course the emperor Hadrian turned against Favorinus.⁸ When Polemon was subsequently appointed guest orator at the Olympic Games of 131, this was interpreted as an imperial rebuff of Favorinus, and the citizens of Athens and Corinth overturned his statues. At this time Favorinus attempted to have his own appointment as chief priest for Arelate province cancelled by imperial command on the grounds of being a philosopher and not a civil servant, but Hadrian turned it down. Orators like Timocrates and Demonax

denounced Favorinus, and Lucian relates an episode when the latter's beardlessness was openly derided by Demonax.⁹ Although there is no absolute clarity, it is probable that Hadrian exiled Favorinus to Chios, from where he was eventually recalled by the emperor Antoninus Pius.

Back in Rome he spent the rest of his life in his own house, where he amassed a collection of books and a reputation for being a wise and learned man. He was elevated to the rank of *eques*, and was considered an authority on *inter alia* jurisprudence, science, education and grammar. He wrote against astrology as practised by a group of astrologers known as Chaldeans,¹⁰ and became involved in scientific arguments with Galen. He probably died at the ripe old age of approximately 90 years and bequeathed his home, library and much respected Indian slave, Auloleythus, to Herod Atticus.

In summary, the evidence for congenital eunuchism (hypogonadism) is that Favorinus is said to have been born without testes, that he had no beard but a thick crop of hair and a high, thin voice like that of a woman. He was never married, but Polemon nevertheless accused him of illicit affairs with a consul's wife, and of making himself sexually desirable. He had a long thin neck, soft skin and limb tissues, thick legs, fleshy (large?) feet, and a healthy constitution which took him into old age. Also significant is that Polemon considered this an extremely rare, even unique, condition.⁴

Congenital eunuchism and hermaphroditism

Eunuchism denotes a characteristic physical condition usually caused by a deficiency of testosterone secretion due to absent or malfunctioning testes (male hypogonadism). In congenital eunuchism the person is born with this testicular deficiency which may be due to abnormal testes (primary hypogonadism) or to inefficient pituitary gonadotrophic hormone stimulation (secondary hypogonadism). Symptoms of hypogonadism may also arise from end-organ insensitivity to testosterone. These conditions may be caused by a large variety of pathological processes, all of which are rare or very rare.¹¹⁻¹³

Primary hypogonadism

Primary hypogonadism usually results from insufficient production of testosterone, but may be due to deficiency of testosterone receptors in the body tissues. Available testosterone is therefore unable to exert its effect on end organs. Congenital causes of testicular dysfunction relevant to this study include:

1. Chromosomal abnormalities, of which Klinefelter's syndrome (present in 1:400 men) is the most common. The karyotype may vary considerably and with it the clinical picture. Typically (xxy karyotype) the postpubertal male shows gynaecomastia and eunuchoid body proportions with small



testes. Varicose veins, mitral valvular disease and chronic bronchitis are common, as is decreased intellectual ability and increased antisocial behaviour. Variant forms such as xx males, xxy syndrome and xy/xo mixed gonadal dysgenesis, are extremely rare.

2. Intra-uterine testicular damage due to maternal teratogens like drugs and irradiation are probably not relevant in this discussion. Maternal viral (and other) infections are rarely severe enough to damage the gonads, and then give a picture resembling Klinefelter's syndrome.

3. Inherited enzymatic defects which block testosterone biosynthesis in an otherwise normal testis are well described but very rare or limited to certain parts of the world. However, spermatogenesis is not affected and patients are therefore not sterile.

4. The rare 'vanishing testis syndrome' (functional prepubertal castrate) is characterised by the disappearance of viable testicular tissue and a resultant eunuchoid patient. The cause is not clearly known but may be auto-immune disease or intra-uterine damage due to testicular torsion, infection or other trauma.

5. Very rarely the testes may lack receptors for gonadotrophic hormones, and will therefore not respond to pituitary stimulation to secrete testosterone.

6. The Ullrich-Noonan syndrome ('male Turner's syndrome') has striking physical abnormalities such as webbed neck, short stature, ptosis, shield chest and cubitus valgus in addition to mental retardation. Idiopathic undescended testes (cryptorchidism) is not associated with eunuchoid features.

7. Conditions in which testosterone is produced normally by the testis, but is unable to sensitise the tissues because of a lack or decrease of testosterone receptors in end organs, include the testicular feminisation syndrome (which presents as a postpubertal phenotypically female patient) and Reifenstein's syndrome where a degree of testosterone sensitisation does occur. In the latter an x-linked inheritance pattern is predominant and patients present with classic eunuchoid features.

Secondary hypogonadism

In secondary hypogonadism testicular failure results from inefficient gonadal stimulation by gonadotrophins (GTs) from the anterior pituitary gland. Very rarely this is due to GT-resistant testes. The usual cause is defective GT secretion from the pituitary, due to gross pituitary disease (in which case the patient suffers from degrees of pan-pituitary failure) or, very rarely, selective lack of GT production. In Kallmann's syndrome isolated GT deficiency is associated with aplasia of the olfactory bulb and resultant loss of smell. A variety of conditions characterised by multiple malformation patterns, e.g. the Lawrence-Moon-Biedl syndrome, are also associated with GT deficiency.

Hermaphroditism

In true hermaphroditism¹⁴ the patient is born with male and female gonads. No more than 400 cases of this extremely rare condition have been reported in world literature, many of which were not confirmed by cytogenetic tests. The external genitalia display all gradations from predominantly male to predominantly female patterns, with a 3:1 male predominance. At puberty there are variable signs of virilisation (masculinisation) or feminisation and 75% develop gynaecomastia; libido is variable but infertility the rule. More common, but still rare, is male or female pseudo-hermaphroditism where persons of one genotype develop phenotypic characteristics of the opposite gender. Female pseudo-hermaphroditism therefore presents with masculinisation due to either pathological overproduction of testosterone, usually from hormone-producing adrenal tumours or hyperplasia, or due to agenesis of the embryonic Müllerian apparatus (which normally gives rise to the female reproductive tract). In the latter instance individuals have a predominantly feminine appearance, whereas the former condition is not associated with long life. Male pseudo-hermaphroditism, where the patient presents with female characteristics, will not be discussed further, as it cannot be confused with eunuchism.¹⁴

Discussion

Congenital eunuchs — who were they?

One presumes that if the ancient Hebrew scholars and the author of Matthew 19:12 found it necessary to distinguish between castrated eunuchs and congenital eunuchs, then the latter category must have represented a sizeable component of the total eunuch population known to them. We have discussed the causes of congenital eunuchism (relevant to the present study) known to modern science, and suggest that it is unlikely that significant further categories (unknown to us) existed in classical times. A large number of conditions are mentioned above, but they are all very rare conditions, with the probable exception of Klinefelter's syndrome which occurs in 1:400 of the male population according to Plymate and Paulsen.¹¹ However, Klinefelter's syndrome, with its very variable clinical picture, often does not present a pronounced eunuchoid appearance. Even when true hermaphroditism (and pseudo-hermaphroditism) is included, the total number of congenital eunuchs in the community would still have been very small compared with castrates.

In discussing the rabbinical concept of androgyny (hermaphroditism) in classical times, Levinson³ shows that essential 'maleness' stretched further than its purely medico-physiological interpretation. Man was said to be in constant conflict to avoid regression towards effeminacy — and in the process biological androgyny entered the field of cultural



androgyny. The Romans were even stronger in condemning sexually voracious females who threatened male dominance. Eunuchs were often equated with effeminate men, although Juvenal¹⁵ did differentiate between them, stating that he preferred the former. It is just possible that blurring of the lines between eunuchs and non-eunuchoid effeminates in cultural terms might have led to inclusion of the latter grouping under the description 'eunuchs born that way'. This would then have enlarged the 'congenital eunuch' pool significantly.

Favorinus — what was he?

Contemporaries like Polemon,⁶ Philostratos,⁶ Lucian⁹ and Gellius¹⁰ agreed that Favorinus had eunuchoid characteristics, such as a thin, high-pitched voice, no beard, soft skin and soft limb tissues (presumably decreased muscle mass). He had effeminate mannerisms, as judged by his peers, and extraordinary eyes.⁴ Polemon⁴ judged him to be 'lustful and dissolute beyond all measure', and charged him with an illicit affair with a consul's wife, but we know that Favorinus and Polemon were sworn adversaries. With the Roman public he was popular. His fall from grace with the emperor Hadrian was probably conditioned by sustained public attacks on his manhood by orators like Polemon and Demonax. As Roman emperor, Hadrian was almost certainly influenced by a topos of his day, namely the tendency to label effeminacy and eunuchism in particular as 'monsters' of society (*monstrum, prodigium*).⁴ This was in spite of the fact that the emperor and aristocracy of the day often indulged in homosexual affairs, *inter alia* with eunuchs.^{16,17}

Polemon⁴ called Favorinus a 'eunuch born without testes', while Philostratos⁶ called him a hermaphrodite (double sexed). As indicated above, true hermaphroditism is extremely rare, with widely varying physical features, but the eunuchoid features described could conceivably fit the condition, including Polemon's accusation that he was capable of some sexual actions.⁴ Favorinus' long life excludes pseudo-hermaphroditism, as argued above.¹⁴

If indeed he was a congenital eunuch, which is perhaps more likely, into which of the many categories described would he fit best? Klinefelter's syndrome is commonly associated with mental retardation and antisocial tendencies, while concomitant disease such as mitral valve pathology and chronic bronchitis would mitigate against longevity. Features

mentioned in the discussion above would probably exclude the majority of listed disease entities, except for the functional prepubertal castrate syndrome, testicular insensitivity to gonadotrophic stimulation, selective deficiency of pituitary GT secretion and partial testosterone resistance of end organs (Reifenstein's syndrome). We would suggest that it is impossible to differentiate further, with the information at our disposal. Even in modern times sophisticated cytological and biochemical investigations are needed in the differential diagnosis of these rare conditions presenting as male hypogonadism. Mason¹⁸ has argued the case for Reifenstein's syndrome, and we agree that it is a strong possibility. These patients characteristically have underdeveloped external genitalia, undescended testes (Polemon's remark about Favorinus being born without testes, refers), decreased muscle mass, gynaecomastia and hair growth typical of androgen deficiency. At birth they present with variable degrees of apparent feminisation of the external genitalia, which could explain Philostratos' claim that he was hermaphroditic.¹⁴

References

1. Sheriffs RJA. Eunuch. In: Douglas JD, ed. *New Bible Dictionary*. 2nd ed. Leicester: Intervarsity Press, 1990: 356.
2. *The Bible*. New International Version. In: *Die Familie-studiebybel*. Kaap: Olyfberg Publishers, 1986.
3. Levinson J. Cultural androgyny in Rabbinic literature. In: Kottke S, Horstmanshoff M, eds. *From Athens to Jerusalem*. Rotterdam: Erasmus Publishing, 2000: 119-139.
4. Barton TS. *Power and Knowledge*. Ann Arbor: University of Michigan Press, 1994: 90, 117-130, 183, 213-222.
5. Schmid W. Favorinus. In: Wissowa G, ed. *Pauly's Realencyclopädie der Classischen Altertumswissenschaft*. Stuttgart: Metzlersche Verlagsbuchhandlung, 1909: 2078-2084.
6. Philostratos. *Vitae sophistarum*. 8. Wright WC, transl. *The Lives of the Sophists*. The Loeb Classical Library. London: Heinemann, 1921.
7. Long HS. Favorinus. In: Hammond NGL, Scullard HH, eds. *The Oxford Classical Dictionary*. 2nd ed. Oxford: Clarendon Press, 1976: 432.
8. Dio Cassius. *Roman History* 69.3,4. Cary E, transl. The Loeb Classical Library. Vol. 8. London: Heinemann, 1925.
9. Lucian. *Demonax* 12.14. Harmon AM, transl. *The World of Lucian*. The Loeb Classical Library. Vol. 1. London: Heinemann, 1915.
10. Aulus Gellius. *Noctes Atticae* 14.1. Rolfe JC, transl. *The Attic Nights*. The Loeb Classical Library. Vol. 3. London: Heinemann, 1927.
11. Plymate SR, Paulsen CA. Male hypogonadism. In: Becker KL, ed. *Principles and Practice of Endocrinology and Metabolism*. Philadelphia: JB Lippincott 1990: 948-961.
12. Simpson JL. *Disorders of Sexual Differentiation*. New York: Academic Press, 1976: 323-333.
13. Raiter J. *Urologic Endocrinology*. Philadelphia: WB Saunders, 1986: 216-223.
14. Griffin JA, Wilson JD. Hermaphroditism. In: Walsh PC, Retik AB, Stamey TA, Vaughn ED, eds. *Campbell's Urology*. Vol. 2. 6th ed. Philadelphia: WB Saunders, 1982: 1516-1522.
15. Juvenal. *Saturne* 2: 15-23, 110-120. Green P, transl. *The Sixteen Satires*. London: Penguin Books, 1967.
16. Horstmanshoff M. Who is the true eunuch? In: Kottke G, Horstmanshoff M, eds. *From Athens to Jerusalem*. Rotterdam: Erasmus Publishing, 2000: 101-116.
17. Grey LH. Eunuch. In: *Encyclopaedia of Religion and Ethics*. Vol. 5. Edinburgh: TT Clark, 1974 (1919): 579-585.
18. Mason HJ. Favorinus' disorder: Reifenstein's syndrome in Antiquity? *Janus* 1979; LXVI, 1-13.

Accepted 4 February 2002.