



Review article

The History of Sexually Transmitted Diseases

Joy Talukdar*

School of Education, The University of Adelaide

Level 8, 10 Pulteney Street, University of Adelaide, SA 5005, Australia

ABSTRACT

The current review traces the historical trajectory of diseases which were termed 'venereal' in ancient and medieval history to the present day form 'sexually transmitted'. The mention of these diseases in medieval history, and their origins and surges in the sixteenth, seventeenth, eighteenth and nineteenth centuries presents some interesting findings regarding the etiology of these diseases. The rise of the second and third generation of sexually transmitted diseases including that of the Acquired Immunodeficiency Syndrome is also reviewed.

KEYWORDS: History; Review; Sexually Transmitted Disease; Venereal Disease

SEARCH STRATEGY AND SELECTION CRITERIA

The initial impetus towards writing this form of a review and the topic thereof came from establishing the 'historical perspective of sexually transmitted diseases' as a part of the 'literature review' dissertation writing stage. Since the present review is of a historical nature, the task initially seemed herculean but achievable. The University Database and the State and National Library Databases and Archives were searched with the keywords "venereal diseases", "sexually transmitted diseases", "history" and with each of the diseases mentioned hereof with the link word "history" and "incidences". The oldest book resulting from the search results dated back to 1868; however, most within the time frame of 1900 to 2000 had the requisite information for the purpose of the current review. Most of the cited journal articles appeared in the texts itself and

these were cross-checked and reviewed through either by searches of the PubMed and Google Scholar, or by going to the respective journal's archives online. Some of the journal articles were also accessed in the print version in the National Library after an online search since the electronic databases only allow an abstract to be viewed. The journal articles also fell within the same time span as the text counterpart and were sufficient to elicit the required information for the review. Those texts or journals which provided only an epidemiological insight of the diseases formed the criterion for exclusion.

INTRODUCTION

Until the late 18th century, scientists being slow to recognize that there was more than one kind of sexually transmitted disease (STD) thought that all sexually transmitted infections were the same disease thus terming it as *venereal disease*, (or

VD) primarily being based on the method of contagion with the word *venereal* derived from Venus, the Roman goddess of love [1]. The present day definition of a STD is a pathology (i.e., damage) with or without symptoms secondary to an infection that is usually (more than half the time) passed from one person to another during intimate bodily contact meant to give or derive sexual gratification [2]. Although in recent times, 'venereal' has been abandoned in favour of the morally neutral, purely descriptive 'sexually transmitted'; syphilis and the others continue to be shameful diseases [3].

ANCIENT AND MEDIEVAL HISTORY

Several medical papyri from ancient Egypt describe diseases which may be attributed to gonorrhoea and the papyrus of Ebers which dates from about 1600 BC mentions inflammation of the urethra [4]. Retracing a thousand years back (2637 BC), there were references in Chinese medical writings to diseases of the genitalia: descriptions of genital chancres, cutaneous symptoms of what might have been the second stage of syphilis, oral lesions and late-stage erosion of the nasal septum [5]. Modern authorities, though, are of the assumption that venereal syphilis was introduced into China by the Portuguese only in the early sixteenth century AD [6].

Preuss asserted that in both the Bible and the Talmud, gonorrhoea (*ziba*) has been extensively described [7]. However, Brim argued that a syphilis-like disease (*magepho*) did attack the Israelites after congress with the Medianite women at the shrine of Baal-Peor, claiming the link of the disease to the Old Testament [8]. In Leviticus 15, male and female discharges are described along with the pathological conditions for each, and detailed rules concerning isolation and prevention of contamination are laid down with the pathological male discharge (*zov*) and spermorrhoea or pollution (*schichvos zera*) also distinguished [7-9].

Some historians have claimed that Hippocrates (460-370 BC), the 'Father of Medicine', described gonorrhoea calling it 'strangury' and pointing out that it resulted from venereal pleasures [10]. Others are less confident, however, are ready to concede that certain excerpts following Epidemics III-IV, may describe VD [9]. In contemporary Asia, the diagnosis and treatment of venereal disease are mentioned in the *Saratha Sangrahara*, an Ayurvedic text from Ceylon composed in the fifth century AD which is in much contrast to Susruta's (a Hindu physician of the same period) book of urinary diseases which does not list dysuria as a possible cause of STD [5,10,11].

The origin of syphilis remains unresolved and unwilling to accept responsibility for this formidable disease, each nation blamed its traditional enemy - England and Italy termed it the French disease, morbus Gallicus, the French on the contrary called it the Neapolitan disease, the Turks called it the Christian disease, the Chinese the Portuguese disease, the Germans the Spanish itch and yet others called it Indian measles [12]. It was first called syphilis in 1530 by Hieronymus Fracastorius of Verona (1483-1553), physician and poet and fellow student of Copernicus of Padua and later acquired a variety of non-national names including the 'Great Pox' or 'grande verole' [3].

SIXTEENTH AND SEVENTEENTH CENTURIES

There is little literature on venereal disease in sixteenth century English medical writings and Jean Astruc listed only four British writers of this period but 200 in the rest of Europe [3]. Syphilis was in England by the early 1490s and in 1493-94 it was recorded that in the town of Shrewsbury 'about thys tyme began the fowle scabe and horrible sickness called the freanche pocks' [13]. Simon Fyshe's *Supplication of Beggars* of 1524 in criticising the dissolute way of life of the clergy mentioned syphilis. Although medical authorities did not write about venereal disease before the

later decades of the sixteenth century, published references to gonorrhoea and syphilis can be found in mid-century with particular references to John Bale (1555), William Clowes (1543–1604), John Read (1588) and Peter Lowe (1596). Even in John Banister's book on ulcers (1575), corroding ulcers 'of the privie parts' might have been syphilis, chancroid or herpes genitalis [13].

EIGHTEENTH AND NINETEENTH CENTURIES

Venereal diseases were quite prevalent in London in the last half of the eighteenth century with almost 45,000 cases admitted to the London Lock Hospital in 1747–1836, though they appear to have been accepted with more equanimity than in the earlier centuries [3]. The influential London physician John Hunter laid 'the true foundation of the science of venereal infections', who having had published his great treatise on venereal disease in 1786, did not see gonorrhoea as a symptom of syphilis but conceived of gonorrhoea and syphilis as two forms of the same disease. Hunter's dissenters, notably Benjamin Bell, in his *Treatise on Gonorrhoea and Lues Venerea* in 1793, pointed out that the symptoms and sequelae of gonorrhoea and syphilis were different and that they were two different diseases [14].

Confusion prevailed in France too in the early nineteenth century before light was shed by Ricord, Broussais and finally Cullerier, who divided the disease into primitive syphilis (when a chancre is present) and constitutional syphilis (when later manifestations occur), thus attacking the notion of 'syphilomaniacs' who were inclined to term syphilis 'any pathological affection which does not respond to normal treatment' [15]. It was finally Ricord, who in his famous study *Traite' Pratique des Maladies Ve'ne'riennes* of 1838 confidently asserted that gonorrhoea and syphilis were indeed separate diseases and that the latter had constitutional consequences [3]. This was supported by Neisser who also refused to accept that the secondary manifestations of syphilis were contagious, however, failing to reach the

conclusion that they were manifestations of two different diseases [14,15].

It was Le'on Bassereau (1810–1887), Ricord's scholarly student who for historical and practical reasons, proclaimed in 1852 that the soft chancre was indeed a different disease [3]. 'French physicians continued to add to knowledge of venereal disease', however, 'the final proof of the separate identities of gonorrhoea, chancroid, and syphilis had to wait until the age of bacteriology when the microorganisms in each case were finally discovered: *gonococcus* – 1879, *bacillus Ducreyii* – 1889, and *spirochaeta pallida* (or *Treponema pallidum*) – 1905' [3]. The most difficult and emotionally charged problem in nineteenth-century syphilology, congenital syphilis, was addressed by Paul Diday (1812–1894) who in his *Traite' de la Syphilis des Nouveau-ne's et des Enfants a' la Mamelle* of 1854, offered the first systematic study of congenital syphilis. Nevertheless, Paul erred in that the infected father could directly transmit syphilis to the foetus without infecting the mother, until the twentieth-century serological testing showed that foetal syphilis is maternal syphilis [16,17].

THE SECOND AND THIRD GENERATION OF STDs

The 1950s saw a quickening of medical interest in the 'second generation' of STDs, namely, non-gonococcal urethritis (NGU), trichomoniasis and candidiasis. As regards NGU, it was A.H. Harkness's classic monograph *Non-Gonococcal Urethritis* (1950) which established the condition as a disease entity, at least in males. The role of *Chlamydia trachomatis* as a causative agent of NGU was first explored by Harkness and subsequently by Jones and Dunlop and colleagues and it was the Swedish L. Westrom, who in 1970, showed that the microorganism could be isolated from the fallopian tubes of women with pelvic inflammatory disease (PID) [3]. Trichomoniasis, caused by the protozoon *Trichomonas vaginalis*, was first described by Donne' in 1836 [3]. The

third disease candidiasis or better known as vulvovaginal candidiasis (VVC), has the yeast or the fungal pathogen *Candida albicans* (previously termed as *monilia albicans*) responsible for its pathogenesis [3].

Another STD in which the pathogen is *Chlamydia trachomatis* (but with a different subtype to the *C. Trachomatis* causing urethritis or salpingitis) is Lymphogranuloma venereum (LGV) endemic in India, areas of Southeast Asia, East and West Africa, and parts of South America and the Carribean, but sporadic in Europe, North America, Australasia, and most of Asia and South America [3]. Acute LGV is more often reported in males than females with an estimated ratio of 5 to 1 [18]. Donovanosis, a chronic bacterial infection of the genital area caused by *Calymmatobacterium granulomatis* is rare in urban areas in developed countries like the United Kingdom, the United States and Australia, but is endemic among the desert Aborigines in central Australia [3].

Herpes simplex virus (HSV) responsible for genital herpes has always been an escalating public health problem since the mid 1960s. Notable contributors adding to the knowledge in the field of genital herpes were Jean Astruc who provided the first recorded description in 1736, Diday and Doyon who in their *Les Herpes Ge'nitiaux* in 1886 demonstrated that it frequently followed infection with syphilis, gonorrhoea or chancroid, Paul Unna who in 1893 demonstrated that the infection could be passed on by fluid from perioral infection and Lipshutz who in 1921 claimed that oral and genital herpes differed clinically and epidemiologically. However, it was only after Nahmias and Dowdle (United States) and Schneeweiss (Germany) in the 1960s who divided HSV into two antigenic types, that significant epidemiological studies of genital herpes could be made possible [3].

The genital *human papillomavirus* (HPV) responsible for genital warts is mostly seen in young adults in the age range of 16–25 years [3]. By the late 1970s it became evident that there are

many types of HPV (over 70 types) each adapted to a particular tissue [19,20]. Hepatitis has long been recognised in the medicine arena, however, its viral aetiology has only recently been established. The five human viruses known to cause acute hepatitis are the *hepatitis A virus* (HAV), *hepatitis B virus* (HBV), *hepatitis delta virus* (HDV), *hepatitis E virus* (HEV) and *hepatitis C virus* (HCV), where, HAV and HBV are commonly transmitted sexually as well as through other means whereas, the sexual transmission of HDV and HCV viruses is less certain [3].

THE BRIEF HISTORY OF ACQUIRED IMMUNODEFICIENCY SYNDROME

The first incidence of acquired immunodeficiency syndrome (AIDS) was reported in mid-1981 in the United States in five homosexual men by the Centers for Disease Control. More than 200,000 cases were reported in the United States and 65,000 in Europe in the next decade and at the end of the decade, the largest number of cases in the United States were in men who have sex with men/males who have sex with males (MSM), while in Europe from 1990, the proportion of cases in MSM was same to that of injecting drug users (IDUs) [3].

An annual increase in AIDS incidence was observed at the three epicentres of AIDS, New York City, San Francisco and Los Angeles in the period 1984–1986 in MSM, from 43 to 113 per cent which declined after 1986, owing to the impact of anti-retroviral zidovudine, effective treatment of pneumocystis carinii pneumonia, and the spread of 'safe sex' practices. The other major mode of *human immunodeficiency virus* (HIV) transmission in Western countries, injecting drug use (IDU) accounted for 29 per cent of adult AIDS cases in the United States in 1991, and 39 per cent in Europe in the same year [3].

Until the mid–1990s, most of the Eastern European countries appeared to have been spared the worst of the HIV epidemic. However, between 1995 and 1998, the former socialist economies of

Eastern Europe and Central Asia witnessed infections around six-fold, and most of these infections were driven by IDU. Following the rapid increase in Ukraine and Belarus in 1995, the epidemic then started to take off in other countries of the region –Moldova in 1996 and the Russian Federation in 1998, followed by Latvia and then Kazakhstan [21].

The Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) notes in this regard that the HIV/AIDS epidemic arrived later in Asia, in the mid- to late-80s. It was primarily Thailand and India that accounted for the majority of the reported infections in the early 1990s. By 1992, a large number of countries in this region were facing increasing numbers of infection. By 1993, 10 per cent to 30 per cent of IDUs in Yunnan Province, China were found to be infected with HIV [21].

The sub-Saharan Africa were under the rampages of the disease by the late 1970s as evident from several epidemiological studies. By the early 1980s, HIV was found in a geographic band stretching from West Africa across to the Indian Ocean and the countries north of the Sahara, while those in the southern cone of the continent remained apparently untouched. By 1987, the epidemic gradually began to move south. South Africa gradually turned in some of the most explosive epidemics reports [21].

CONCLUSION

The classical STDs gonorrhoea and syphilis dates back to ancient and medieval historical writings as claimed by some historians. However, the history of syphilis in particular remains unresolved. The sixteenth and seventeenth century English medical writings are replete with mentions of venereal diseases; however, it was only in the late eighteenth and the early nineteenth centuries that the microorganisms responsible for the diseases were finally discovered. The second and the third generation of STDs, namely non-gonococcal urethritis, trichomoniasis, candidiasis,

lymphogranuloma venereum, donovanosis, genital herpes and genital warts and hepatitis, were subsequently discovered following a shift of medical interest in this area. The first incidence of the acquired immunodeficiency syndrome was reported in mid-1981 in the United States.

AUTHORS AND CONTRIBUTORS

The primary and the sole author is the corresponding author as well and take the sole responsibility and accountability towards the submission and write-up for the current review.

CONFLICTS OF INTEREST

For the current author, none were declared

ROLE OF THE FUNDING SOURCE

For the current author, none were declared

ROLE OF MEDICAL WRITER OR EDITOR

For the current author, none were declared

REFERENCES

1. Little M. *21st Century Health and Wellness: Sexually Transmitted Diseases*. Philadelphia: Chelsea House Publishers; 2000.
2. Shuford JA. *What is the difference between sexually transmitted infection (STI) and sexually transmitted disease (STD)?* [The Medical Institute Web site]. October, 2008. Available at: <http://www.medinstitute.org/public/132.cfm>. Accessed December 29, 2010.
3. Lewis MJ. *Thorns on the Rose: The History of Sexually Transmitted Diseases in Australia in International Perspective*. Canberra: Australia Government Publishing Service; 1998.
4. Hirsch EW. An Historical Survey of Gonorrhoea. *Ann Med Hist*. 1930; 2: 414–23.
5. Lancereaux E. *A Treatise on Syphilis: Historical and Practical*, vol 1, G. Whitley, transl. London: The New Sydenham Society; 1868.

6. Ki Che Leung A. Diseases of the Premodern Period in China. In: Kiple KF, ed. *The Cambridge World History of Human Disease*. Cambridge: Cambridge University Press; 1993:356.
7. Preuss J. *Biblical and Talmudic Medicine*, F Rosner transl. and ed. New York: Hebrew Publishing Company; 1978.
8. Brim CJ. *Medicine in the Bible*. New York: Froben Press; 1936.
9. Waugh MA. History of Clinical Developments in Sexually Transmitted Diseases. In: Holmes KK, Mardh P–A, Sparling PF, Wiesner PJ, eds. *Sexually Transmitted Diseases*. New York: McGraw-Hill; 1990: 3,4,40.
10. Morton RS. *Gonorrhoea*. London: WB Saunders; 1977.
11. Pereira EDC, Ratnatunga CS. History of Venereal Disease Control in Ceylon. *Brit J Vener Dis*. 1965; 41: 97–106.
12. Guerra F. The Dispute over Syphilis: Europe versus America. *Clio Med*. 1978; 13: 39–61.
13. Waugh MA. Venereal Diseases in Sixteenth-Century England. *Med Hist*. 1973; 17: 192–99.
14. Flegel KM. Changing Concepts of the Nosology of Gonorrhoea and Syphilis. *Bull Hist Med*. 1974; 48: 571–88.
15. Quetel C. *History of Syphilis*. Cambridge: Polity Press; 1990.
16. Crissey JT, Parish LC. *The Dermatology and Syphilology of the Nineteenth Century*. New York: Praeger; 1981.
17. Keil H. The Evolution of the Term Chancre and Its Relation to the History of Syphilis. *J.Hist. Med. Allied Sci*. 1949; 4: 407–16.
18. Perine PL, Osoba AO. Lymphogranuloma Venereum. In: Holmes KK, Mardh P–A, Sparling PF, Wiesner PJ, eds. *Sexually Transmitted Diseases*. New York: McGraw-Hill; 1990: 195,201.
19. Oriel D. Genital Human Papillomavirus Infection. In: Holmes KK, Mardh P–A, Sparling PF, Wiesner PJ, eds. *Sexually Transmitted Diseases*. New York: McGraw-Hill; 1990:433.
20. Shah KV. Biology of Human Genital Tract Papillomavirus. In: Holmes KK, Mardh P–A, Sparling PF, Wiesner PJ, eds. *Sexually Transmitted Diseases*. New York: McGraw-Hill; 1990: 425.
21. UNAIDS, WHO. *A History of the HIV/AIDS Epidemic with emphasis on Africa*. September 5, 2003. Workshop on HIV/AIDS and Adult Mortality in Developing Countries, New York, Report No. UN/POP/MORT/2003/2.

*Corresponding author: Joy Talukdar

E-mail: joy.talukdar@adelaide.edu.au