

Anal warts and anal coitus

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Warts have received a good deal of attention in recent years. The epidemiology of warts on the skin has been studied in major surveys of children and other groups (Massing and Epstein, 1963; Bosse and Christophers, 1964), and their virology has also been extensively investigated (Strauss, Shaw, Bunting, and Melnick, 1949; Williams, Howatson, and Almeida, 1961). The natural history and virology of genital warts have also been studied in detail recently (Oriel, 1971; Almeida, Oriel, and Stannard, 1969; Oriel and Almeida, 1970), but little is known about the natural history of anal warts, although this is a relatively common disease of great antiquity.

The physicians of the ancient world were familiar with anal warts, and described their differential diagnosis and treatment (Celsus, 1st cent. A.D.), but expressed no opinion on their cause. Popular writers of the period, however, give an interesting account of the folk-lore of the disease. According to them, anal warts (described as 'figs') were a clear sign of anal intercourse, and patients with them did not deserve sympathy but rather ribaldry or disgust; Bäfverstedt (1967) pointed out that in those times to call a person *figosus* was in effect to accuse him of sodomy. The point is shown in the following epigrams:

In order to buy some slave boys
Labienus sold his gardens;
But now, poor Labienus has
Only an orchard of figs.

(Martial, 1st cent. A.D.)

Hairy limbs and bristly arms
Suggest a stern personality,
But the doctor smiles as he removes
The warts from your smooth anus.

(Juvenal, 2nd cent. A.D.)

After the fall of the Roman Empire no more was heard about anal warts for many centuries, and when

from the 16th century onwards interest in venereology was reawakened, false theories about the relationship between syphilis and other genital diseases led to a confusion about the identity of anal warts which was to last for 300 years. For a time, they were confidently ascribed to syphilis (Paget, 1865); later, gonorrhoea was thought to be their cause (Stümpke, 1914), and later still they were attributed to non-specific irritation by dirt and discharges (Ravogli, 1916).

With this prevailing uncertainty about the cause of anal warts, it is not surprising that little attention was paid to their natural history, and the association which the Romans had seen between anal warts and anal coitus was not mentioned. Indeed, at the end of the 19th century they were described as almost exclusively a disease of women, complicating vulval warts, and were attributed to 'the flow of discharges backwards from the vagina' (von Bergmann, von Bruns, and von Mikulicz, 1905). References to anal warts in men at this time were rare, but their supposed connection with anal coitus was referred to by Róna (1899), who described anal warts in a 16-year-old homosexual, and by Middleton (1899), who had seen them in a male prisoner 'as a consequence of pederasty'. Ravogli (1916) described two patients with anal warts, but although both had had syphilis he did not say whether they were homosexual; it is possible that then, as now, some physicians were reluctant to embarrass their patients by asking them about their sexual habits. More recently, homosexuality has been mentioned again in connection with anal warts. Parnell (1929) wrote that 'their actual origin must remain obscure, but that they are associated with certain forms of sexual inversion is patent to anyone who has a large clinical experience'. Others denied this. Drueck (1941) thought that 'the former belief that they are proof positive of sodomy is unfounded', and Chester and Schwimmer (1955) asserted that there was 'no question of sodomy' in the four patients they described. Marino (1964), however,

found that five out of eighteen homosexuals he had examined had perianal warts.

Anal warts today are commonly seen in both proctological and venereological clinics. Although there is a tacit belief that the disease is common in homosexuals, the published evidence relates to such small numbers of patients that any connection between anal warts and anal coitus is not firmly established. The implications of this relationship, if it exists, must also be considered. It is now known that anal warts contain a papillomavirus in low concentration (Oriol and Almeida, 1970); this can be seen in the electron microscope, but like all wart viruses it has not as yet been artificially propagated. Its relationship to the viruses of skin warts and of genital warts has not hitherto been investigated, but it seems reasonable to suppose that its introduction into the anal epidermis is the immediate cause of the warts. If anal warts were preceded by anal coitus, it is conceivable that sexual contacts of these patients might be found to have penile warts, the disease in this case resembling genital warts, which are predominantly sexually transmitted (Oriol, 1971). The use of contact tracing techniques applied to patients with anal warts might indicate whether this supposition was correct.

In the following, the results of an investigation of eighty patients with warts confined to the anus are described, and the possible natural history of the disease discussed.

Clinical Material and Methods

Between October, 1967, and January, 1970, 412 patients with anogenital warts were seen by the author in the Department of Venereal Diseases, St. Thomas' Hospital. The distribution of the warts is shown in Table I.

TABLE I *Distribution of anogenital warts in 412 patients*

<i>Location of warts</i>	<i>Men</i>	<i>Women</i>
Confined to genitals	175	116
Genitals and anus	16	25
Confined to the anus	72	8
Total	263	149

Eight per cent. of the men and 18 per cent. of the women with genital warts had anal warts as well. The history given suggested that in these patients the anal warts were secondary to previously existing genital warts, and they will not be discussed further here. The following results relate to the 72 men and eight women who had warts which were *confined* to the anus.

Results

AGE AT ONSET (Table II)

The youngest male patient was aged 14½ when the warts appeared, and the oldest was aged 55 years.

The eight women were of various ages between 17 and 47 years when the anal warts first appeared.

TABLE II *Age at onset of anal warts in men*

<i>Age at onset (yrs)</i>	<i>No. of patients</i>
Under 15	2
16-20	11
21-25	24
26-30	8
31-35	6
36-40	4
41-45	1
46-50	3
Over 51	2
Uncertain	11
Total	72

ANAL COITUS

Of the 72 men, twelve denied that they had ever been homosexual, three were bisexual, and the remaining 57 were exclusively homosexual. Sixty of the 72 (83 per cent.) admitted to anal coitus during the year before the warts appeared; most of these patients had been homosexual for years, but in six of them anal warts appeared after their first experience of anal coitus.

Five of the eight women (62 per cent.) admitted to anal coitus. In one patient this had taken place 10 years previously, but the other four had had anal coitus less than 3 months before the warts appeared; all said that this had been their only experience of intercourse of this kind.

CONTACT TRACING

The possibility that anal warts might be sexually transmitted was investigated by attempting to see the sexual contacts of patients with the disease, both *primary* contacts (who had had intercourse with the patient before the anal warts appeared) and *secondary* contacts (who had had intercourse afterwards). Tracing these contacts was difficult, as most of the homosexual patients were very promiscuous, admitting as many as thirty contacts in a year, most of whom were casual. However, two men with anal warts admitted to only one primary contact each, and both these contacts were traced and examined. The first patient was a boy of 14½, who had had anal warts for 6 months. He admitted anal coitus with one man during the preceding year, and denied any other sexual contact. This man was traced and examined, but he was found to have no warts on the genitals or

elsewhere. The contact of the second patient, whose anal warts appeared 4 weeks after his only experience of anal coitus, also had no genital warts when he was examined.

Eight secondary contacts of men with anal warts were seen; none was found to have any penile warts, the periods of observation being: 1 month (1), 2 months (2), 3 months (3), 8 months (1), and 1 year (1).

In the cases of the females, three primary contacts of the five women who admitted anal coitus were seen but none of them had penile warts. No secondary contacts existed.

ASSOCIATED INFECTIONS

The 72 men with anal warts showed a high incidence of genital infections. Five had primary syphilis (2 penile, 2 anal, and 1 tonsillar), three secondary syphilis, and three latent syphilis. Eighteen (25 per cent.) had positive serological tests, but seven of these related to previously treated syphilis. Sixteen patients had gonorrhoea (9 urethral and 7 rectal). In addition, fourteen patients (19 per cent.) gave a history of previous treatment for syphilis, and twenty-three (32 per cent.) of past attacks of gonorrhoea.

SKIN WARTS

All patients with anal warts were examined for the presence of skin warts. Of the 72 men, eleven (15 per cent.) had warts elsewhere; nine had common warts on the fingers or hands, one a common wart on the toe, and one a plantar wart. Of the eight women, only one had a skin wart, a filiform wart on the inner side of the thigh.

Discussion

In this investigation an association between anal warts and anal coitus was confirmed. Not all patients with the disease admitted to anal coitus, but the majority did, and it is of interest to speculate on the significance of the relationship.

The men with anal warts showed the promiscuity commonly seen in homosexuals, reflected by the high incidence of associated infections in them. It might be thought that promiscuous homosexuals might sooner or later have sexual contact with somebody with penile warts and for this reason develop anal warts; conversely, secondary contacts might develop penile warts and the cycle thus be continued.

Rather surprisingly, the results of contact tracing did not support this idea. Two men with anal warts had had anal coitus with only one person in each case, but neither of the contacts had penile warts

when they were examined (although they might conceivably have had them previously). The only primary contacts of three women with anal warts who admitted to anal coitus were likewise free from genital warts when examined. None of the eight secondary contacts of men with anal warts who were examined after varying intervals of time had any penile warts. Although tracing contacts of patients with anal warts proved to be very difficult, such evidence as was found did not support the concept that anal warts are a sexually transmitted disease.

The problem may be approached in another way by comparing the incidence of genital and anorectal infections, including warts, in known homosexuals. Records of 500 white homosexuals who had been seen in the Department of Venereal Diseases, St. Thomas' Hospital, between September, 1968, and June, 1969, were therefore studied, with the following results (Table III).

TABLE III *Incidence of genital and anorectal infections in 500 homosexuals*

Disease	Anorectal infections		Urethral or penile infections	
	No. of patients	Per cent.	No. of patients	Per cent.
Primary syphilis	9	2	18	4
Gonorrhoea	78	16	95	19
Non-gonococcal infections	74	15	82	16
Warts	49	10	7	1.4

The incidence of gonococcal and non-gonococcal infections in the urethra and anal canal were approximately equal, as might be expected. The disparity in the case of primary syphilis can be explained by the fact that many anal sores are inconspicuous and thus may not be noticed by the patient. However, in these homosexuals, anal warts were seen seven times more commonly than penile warts; indeed, penile warts were less common in homosexuals (1.4 per cent. of patients) than in heterosexuals (3.2 per cent. of patients). Again, this result does not support the idea that anal warts are simply a sexually transmitted disease.

Therefore, although anal warts are commonly associated with anal coitus, there is some doubt whether sexual contact with an infected person is necessarily the cause. Are there any other possible explanations? It seems unlikely that skin warts play a major aetiological role, because although they were seen in 15 per cent. of the patients with anal

warts, they were equally common in a control group (Oriol, 1971); it is conceivable, however, that they may be causally related in a few patients. Another possibility is that a wart virus might be a normal inhabitant of the anorectum in some people, as Young (1964) has suggested on histological grounds; anal coitus might then allow its entry into the anal epidermis through trauma. However, were this so it might be expected that anal warts would be seen as a complication of long-standing breaches of the epithelium, *e.g.* in anal fissures, which is not often the case. Nevertheless, this suggestion might be worth further consideration.

Not all patients with anal warts will admit to having experienced anal coitus, and it is impossible at present to suggest the aetiology of the warts in those who deny it. A further study of the disease in patients who have not attended a department of venereal diseases would be of interest, and this is being undertaken. The natural history of anal warts must remain speculative until more evidence is available, and virological studies are needed, first to characterize the virus in the lesions and decide its relationship to other wart viruses, and secondly to investigate the possible presence of a wart virus in the anorectum of apparently normal people. The latter would require the existence of cultural techniques for wart viruses, the lack of which is impeding so much research in this field.

Summary

Seventy-two men and eight women with anal warts have been studied. Sixty of the men (83 per cent.) and five of the women admitted to anal coitus before the appearance of the warts. Only limited tracing of sexual contacts was possible, but no evidence of sexual infectivity of the disease was found. In a retrospective study of 500 homosexual male patients, it was noticed that anal warts were seven times as common as penile warts. Anal warts, although often associated with anal coitus, may not comprise a sexually transmitted disease, and other possible explanations for the development of these warts are discussed.

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Végétations anales et coït anal

SOMMAIRE

72 hommes et 8 femmes atteints de végétations anales ont été étudiés. 60 des hommes (83 pour cent) et 5 des femmes admettaient avoir eu des coïts anaux avant l'apparition des végétations. La recherche des contacts sexuels ne fut possible que d'une manière restreinte, mais il ne fut pas trouvé de preuves du caractère sexuel de l'infection. Dans une étude rétrospective de 500 malades homosexuels masculins, il a été noté que les végétations anales furent sept fois plus fréquentes que les végétations de la verge. Les végétations anales, bien que souvent en relation avec le coït anal, ne constituent pas forcément une maladie sexuellement transmise; d'autres explications possibles sont discutées concernant leur apparition.