Perforating chancre: any cause-effect relation with HIV infection?

Variation in clinical pictures of syphilis, when co-infected with HIV are well known.1 Normally, a classic Hunterian chancre heals within 1–2 weeks of treatment without scarring.2 Primary chancre, healing with perforation of the site, does not commonly occur.3 Here we report four patients with primary syphilis, in whom the chancre healed with perforation of the genitalia. Concomitant infection with HIV is presumed to be responsible for this destructive sequela.

Case 1
A 21 year old woman presented with a painless indurated ulcer over the dorsal aspect of the labia majora, along with same sided inguinal lymphadenopathy of 1 week’s duration. Dark ground microscopy (DGI) was positive for Treponema pallidum and VDRL titre was 1:64. Following treatment with penicillin, the ulcer healed slowly, leaving a perforation on the labia majora.

Case 2
A 20 year old unmarried male patient with high risk behaviour presented with a painless indurated ulcer over the side of the shaft of the penis. He gave a history of a painless ulcer on the same site about 1 month earlier. At presentation, his VDRL was 1:32. He was treated with penicillin.

Comment
Gram stained smears from the ulcers and culture for aerobes and anaerobes were negative and negative in first three cases. In all the four patients, ELISA for HIV was positive. Immune response to T pallidum is primarily cell mediated.7 In an immunocompetent host with primary syphilis, CD4+CD8+ T lymphocyte ratio is high at the site of the chancre,7 which possibly prevents local multiplication of the organism. Consequent to the loss of local cellular immunity as a result of HIV infection there may be an enhanced ability of the organism to multiply locally, giving rise to larger and deeper ulcers which are slower to heal. This fact has been demonstrated experimentally in animal models.8

Studies exploring the correlation of CD4+ T cell count and stage of HIV infection with this altered manifestation of primary syphilis should be undertaken. This might show the impact of HIV infection on the clinical severity of primary chancre.

References

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Superior mesenteric artery syndrome in an HIV positive patient

A 27 year old HIV positive man with a CD4+ lymphocyte count of 26 cells x10^9/l presented with a 2 week history of progressive left sided weakness, vomiting, and weight loss. A computed tomograph (CT) brain scan demonstrated ring lesions bilaterally in the basal ganglia. Toxoplasma serology was positive at a titre of 1:256 and treatment for cerebral toxoplasmosis commenced. His weakness responded to therapy but vomiting continued despite antiemetics. An ultrasound scan demonstrated an enlarged, dilated stomach, dilated first and second parts of the duodenum, and an obstruction at the level of the third. Barium studies confirmed these findings but also demonstrated prominent peristalsis in the second part of the duodenum and an abrupt cessation of flow to barium in the middle of the third (fig 1). Some flow of barium into the jejunum was noted when the patient was turned prone. An abdominal CT scan demonstrated a reduction in the angle between the superior mesenteric artery and the aorta (fig 2). A diagnosis of superior mesenteric artery (SMA) syndrome was confirmed. Two litres of bile were aspirated per nasogastric tube daily and he continued to lose weight. His body mass index (BMI) fell to

Figure 1 Perforation of prepuce.

Bilateral inguinal lymphadenopathy was present. DGI from the ulcer was negative and VDRL was 1:64. Following penicillin therapy, it healed with perforation of the prepuce.

Case 4
A 45 year old married man with high risk behaviour presented with a large perforation on the lateral side of the shaft of the penis. He gave a history of a painless ulcer on the same site about 1 month earlier. At presentation, his VDRL was 1:32. He was treated with penicillin.

Comment
Gram stained smears from the ulcers and culture for aerobic and anaerobic organisms were negative in first three cases. In all the four patients, ELISA for HIV was positive. Immune response to T pallidum is primarily cell mediated.7 In an immunocompetent host with primary syphilis, CD4+CD8+ T lymphocyte ratio is high at the site of the chancre,7 which possibly prevents local multiplication of the organism. Consequent to the loss of local cellular immunity as a result of HIV infection there may be an enhanced ability of the organism to multiply locally, giving rise to larger and deeper ulcers which are slower to heal. This fact has been demonstrated experimentally in animal models.8

Studies exploring the correlation of CD4+ T cell count and stage of HIV infection with this altered manifestation of primary syphilis should be undertaken. This might show the impact of HIV infection on the clinical severity of primary chancre.
12 and total parental nutrition was introduced for 6 weeks after which an exploratory laparotomy was performed. An anterior gastrojejunostomy was made and a jejunal feeding tube inserted into the collapsed proximal small bowel. The patient recovered postoperatively, before being allowed to vomit after meals. After 4 weeks his BMI increased to 15, vomiting stopped, and he demanded food. At the time of writing he is well, independent, and on antiretroviral therapy.

Superior mesenteric artery syndrome is a controversial diagnosis synonymous with vascular compression of the duodenum, arteriomesenteric duodenal compression syndrome, the cast syndrome, chronic duodenal ileus, and Wilkie’s syndrome. First described by Rokitansky in 1842, frequency of reports have recently declined and its existence debated. The syndrome has been ascribed to a reduction in the angle between the aorta and the superior mesenteric artery, scissoring the duodenum in its third part causing obstruction. This is often because of sudden, severe weight loss resulting in a reduction of mesenteric and retroperitoneal fat. Precipitating factors include eating disorders, severe wasting conditions, prolonged immobilisation, previous abdominal surgery, or inflammatory conditions. It has also been reported in cases of severe kyphoscoliosis. It has not previously been reported in AIDS.

Characteristic symptoms, typically intermittent in nature, comprise bloating, nausea, and intractable bilious vomiting relieved by adopting the prone or knee to chest position. A barium meal is the most useful diagnostic investigation. Features of note include dilatation of the first and second parts of the duodenum and an abrupt, linear hold up of flow to barium in the third with abnormal peristalsis and even reverse peristalsis frequently observed. Relief of the obstruction can in some instances be achieved by placing the patient prone during the investigation. CT studies can demonstrate reduction in the aortosuperior mesenteric artery angle and serve as a non-invasive diagnostic tool.

Reversal of weight loss is key to resolution, by surgical means if necessary. Nutritional support should be attempted first. Endoscopic or nasogastric decompression is often difficult because of severe gastric dilatation. Duodenojejunostomy or gastrojejunostomy are the surgical procedures of choice when medical therapy fails. Our patient did not experience immediate symptomatic relief through surgery but did achieve rapid weight gain via jejunal feeding. We report the first case of SMA syndrome in a patient with AIDS. The spread of HIV worldwide and its association with severe wasting makes this an important differential diagnostic for the clinician.

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Figure 2 Multislice CT with intravenous contrast medium: sagittal reconstruction through mid-abdomen. The angle between the superior mesenteric artery and the aorta is reduced causing compression of the duodenum (arrow). Note grossly distended stomach anteriorly.

Was the Papanicolaou smear responsible for the decline of Trichomonas vaginalis?

There has been a dramatic decline in the prevalence of trichomoniasis in Australia over the past 30 years. In 1979, 17.8% of women attending a Sydney STI clinic had Trichomonas vaginalis infection. By 1998 less than 1% of non-Indigenous women presenting to family planning and STI clinics in another jurisdiction were diagnosed with the condition and most Australian urban pathology laboratories do not diagnose a case from one year to the next. Similar observations have been reported elsewhere: the rate of detection of trichomoni- niasis in Papanicolaou (Pap) smears in Denmark fell from 1% in 1967 to <2% in 1997, and a study in Brazil found similar results (a peak of 17.3% in 1978, falling to 3.4% in 1998).

In the absence of any health promotional activities relating to trichomoniasis and in a setting where the prevalence of another STI, Chlamydia trachomatis, has shown a fourfold increase in notifications in the past 10 years (Communicable Diseases Network Australia, National Notifiable Diseases Surveillance System, personal communication), what can explain the dramatic fall of T vaginalis? I propose that the change in prevalence is an unintended consequence of the introduction of coordinated Pap smear screening programmes in the 1970s and 1980s. As the Pap screening programmes gained momentum in the urban areas, a positive finding on the Pap smear, which has a sensitivity for the diagnosis of T vaginalis of around 50–60%, would have been conveyed to the referring medical practitioner who would treat the woman with metronidazole or tinidazole. In addition, the increasing use of these antibiotics for the treatment of other conditions, in particular bacterial vaginosis, may have further reduced the prevalence during the same period. As there are no cytological changes that are diagnostic of C trachomatis, Pap screening would be expected to have no effect on chlamydia prevalence.

In Australian urban populations the proportion of women undergoing Pap screening in the 20–40 year age group is approximately 70%. On the other hand, in some remote Aboriginal populations the introduction of coordinated screening has lagged behind urban areas and trichomoniasis remains hyperendemic (prevalence of approximately 25%).

(Of course these observations could be confounded by a number of factors: Pap screening rates correlate with socioeconomic status and the rate of partner change could be different between these groups. However, it has been shown that access to services is more important than differences in the rate of partner change when comparing STI rates in Indigenous and non-Indigenous populations in Australia.)

The Pap smear hypothesis could be tested by correlating the prevalence of trichomoniasis with the rate of cervical cancer screening in selected populations and through clinic based case-control studies. (The virtual absence of trichomoniasis in urban Australia means that this work must be performed in other populations.) If the prevalence of T vagi- nalis is related to Pap screening, a similar approach to chlamydia control—that is, routinely linking nucleic acid amplification testing for C trachomatis with the Pap smear, could also be considered.

Conflict of interest: None.

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The HIV/AIDS epidemic in Ukraine: stable or still exploding?

A recent article published in Sexually Transmitted Infections’ presented evidence suggesting that the HIV/AIDS epidemic in Ukraine had peaked in 1997 and has since declined. The world has only recently awoken to the threat of a widespread HIV/AIDS epidemic in eastern Europe, including projections of an
epidemic in Russia of between 6–11% by 2010, and the potential for economic decline and geopolitical instability: HIV trends in Ukraine, with many of the same socioeconomic characteristics and risk factors found in Russia—namely, large numbers of injecting drug users (IDUs), an expanding sex industry, internal and external migration, poor access to health care, general economic and social upheaval, and a recent explosive syphilis epidemic—must therefore be examined closely. Could Ukraine present a model for Russia in terms of controlling the HIV epidemic? Does Ukraine in fact represent an ongoing epidemic inadequately described by official statistics?

The first indication that perhaps the data presented by Mavrov and Bondarenko do not reflect the current status of the epidemic in Ukraine is the apparent contradiction in table 1, which reports the prevalence of HIV among select groups in 1998 and 1999. While HIV prevalence for “all populations” declined, every subpopulation increased, except for a decline from 0.07% to 0.064% among blood donors. Prevalence among pregnant women, who reflect the likely future of the epidemic, increased by 33%.

Current official statistics in Ukraine simply do not reflect the current status of the epidemic, and, importantly, do not reflect the likely future course of the epidemic. As Mavrov and Bondarenko report, the majority of new HIV cases continue to be among IDUs. This population is wary of the healthcare sector, as the acknowledgement of drug use to a healthcare provider leads to obligatory registration and confinement for treatment, possible job loss, loss of one’s driving licence, and criminal prosecution. Kobyshchev reported that only 5% of IDUs were covered by the current system of HIV surveillance. Rather than the 8.6% prevalence reported by Mavrov and Bondarenko among IDUs, cross sectional studies have shown prevalence of between 18% and 64% (table 1).

Behavioural factors also argue against the likelihood of a stable epidemic in Ukraine. In a study of female sex workers (FSWs) in Odessa conducted in 1997 and 1999, the percentage of FSWs reporting always using condoms declined (from 49% to 40%). A 1999 national reproductive health survey found that 27% of women reported condom use at the time of first sexual experience. The recent attention to model the future course of the HIV/AIDS epidemic in Ukraine, developed an “optimistic” scenario, where HIV prevalence increased to 2% of the adult population by 2010, and a “pessimistic” scenario, where HIV prevalence increased to 5%. While official statistics might indicate a stable epidemic, after more than two decades of global experience, no one should mistake the clear evidence that an explosive epidemic is ongoing in the Ukraine. Failing to acknowledge the true nature of an epidemic has yet to save any nation from its consequences.

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Raising awareness of UK GUM clinic activities

In their recent letter on the sexual health issues which face performers in the adult entertainment industry, Gabrielsen and Barston highlight the current lack of coherent sexual health infrastructure for this population in the United Kingdom. The work of the AIM Health Care Foundation in the United States, is a valuable model which identifies the unique sexual health requirements of adult industry workers. By providing specialist care for the performers, AIM offers advice and information to a group whose specific needs have been globally poorly addressed. Evidence of this is provided by the large number of performers who choose to access AIM Health Care for their HIV tests in the United States.

In the United Kingdom this would also seem to be the case, as the few adult performers who have any form of STI screening also prefer to use the facilities of private clinics. The role of GUM clinics extends beyond an according agency for HIV certification, which should not be allowed to become the primary reason for contact between performers and GUM staff. Stricter emphasis needs to be placed on re-education within the UK industry to highlight the need for regular STI screening, health education and promotion. Especially since performers may have any form of regular STI screening either in their public or private lives. We believe that it may be helpful to raise awareness of services offered by modern GUM clinics in the United Kingdom, by training and targeted information for adult performers.

By taking control of sexual health the industry will not only have healthy performers but will also provide the viewing public with a safer sex message that is portrayed in an entertaining, safe and non-threatening manner. Therefore, bearing in mind the complexities facing performers, the adult entertainment industry should be commenced for working with core HIV/GUM services and piloting a study into the sexual health of adult performers. It will be of particular interest to see whether sexual health care can be provided for this group within the bounds of the NHS or whether they should be the right of private clinics to provide them with care and information.

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Partner notification in primary care

In the past decade chlamydia tests have become more widely available in primary care, and many female patients are now diagnosed and treated in this setting. The lack of skills and resources for partner notification in primary care is now a matter of public health concern. We undertook a study in three districts in order to explore their current practice and attitudes in relation to partner notification and treatment. All GPs in the Nottingham Health District (n=367), and GPs recruited for the Chlamydia Partnership Project in north London (n=65) (a randomised trial of health adviser led partner notification for primary care patients) were invited to complete a short questionnaire. The response rate was 56%.

Of the 242 respondents, 86% considered testing for genital Chlamydia trachomatis infection in women to be a GP role, while 60.7% considered that partner notification was also a role of the GP. 90.5% of respondents thought that one or more patients had had a positive test at the practice in the preceding year.

Among GPs who had recently been involved in managing chlamydia, 82.5% always or sometimes managed the patient wholly within primary care; 70.1% said they “always” or “sometimes” managed partners. However, responsibility for ensuring this happened was generally devolved to the patient, since 73.8% “always,” and 22.5% “sometimes” dealt with partner notification by telling the patient to get the partner treated.

GPs appeared to be very aware of the importance of contact tracing. Respondents were asked to state difficulties in managing chlamydia in free text form. Of 200 GPs stating one or more difficulties, 76.5% mentioned non-response or lack of cooperation (10.5%).

The majority of GPs (69.9%) would treat with an appropriate antibiotic of equal or greater dose and duration than that currently recommended by the Central Audit Group for

Table 1 Prevalence of HIV among injecting drug users, 2000

<table>
<thead>
<tr>
<th>Site</th>
<th>HIV prevalence (%)</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poltava</td>
<td>41.7</td>
<td>259</td>
</tr>
<tr>
<td>Donetsk</td>
<td>39.7</td>
<td>252</td>
</tr>
<tr>
<td>Kryvyi Rig</td>
<td>28.1</td>
<td>249</td>
</tr>
<tr>
<td>Odessa</td>
<td>64.0</td>
<td>293</td>
</tr>
<tr>
<td>Simferopol</td>
<td>37.2</td>
<td>261</td>
</tr>
<tr>
<td>Kharkiv</td>
<td>17.8</td>
<td>250</td>
</tr>
</tbody>
</table>

Genitourinary Medicine, while 17.3% specified an inadequate course. Dosage or duration could not be ascertained in 12.7% of responses. This suggests substantial improvement in the past few years, although our study probably over-represents GPs already treating chlamydia infection. They agree overwhelmingly that partner notification is not their role. The programme, since many patients diagnosed in primary care continue to increase without adequate support for partner notification, much of the resource used in testing women will be wasted. The announcement of pilot sites for chlamydia testing in primary care is to be welcomed. However, support for GPs in partner notification should not wait for the roll out of a national programme, as many patients diagnosed in primary care are already at risk of re-infection and onward transmission.

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References

Treatment of Candida glabrata using topical amphoterin B and flucytosine

We read with interest the article by White and colleagues on the treatment of Candida glabrata using topical amphoterin B and flucytosine because this infection can prove difficult to treat.1 We have since used this treatment on a 28-year-old woman with a 10-year history of recurrent candida.

The woman first attended our department complaining of a recurrent itchy white discharge. She had received numerous courses of antifungals including topical clotrimazole, oral itraconazole, and fluconazole with no relief. Vaginal swabs were positive for C glabrata and she was treated with nystatin pastes 200 000 units at night for 14 nights. Culture was still positive for C glabrata at follow up 4 weeks later so she was advised to continue with nystatin pastes for a further 4 weeks. On review she felt her symptoms were slightly better but she found the pastes were not dissolving so she was switched to nystatin cream 200 000 units by
It is a credit to the book’s other talents that my bad humour was rapidly dissipated. The introductory chapters were, quite simply, a pleasure. The basis of humoral immunity was a clear rendition of the area, and the chapter on the principles of cellular immunology was as good, and as enjoyable an introduction to the field as you could get. The final introductory chapter, on mucosal defences, maintains the high standards set by the first two.

The remainder of the book is divided into three sections covering the molecular basis for immunotherapy, immunotherapy for HIV infection, and immunotherapy for other infectious diseases. Each of these three sections provides a good review of the major issues. The molecular basis of immunotherapy contains an excellent chapter on the role of dendritic cells, and usefully explains how their crucial role in immune defences might be utilised for immune therapy. The chapter on cytokines sheds light on an area which is too complex or obtuse for many.

The section on immunotherapy for HIV infection covers in turn the basis for immunotherapeutic HIV vaccines, passive immunotherapy, and gene therapy. There are some notable omissions dictated by the presumed delay between the research for each chapter, and publication of the book. For instance, RNA interference, sometimes known as post-transcriptional gene silencing, is currently being investigated as a possible major therapeutic strategy for the future. True, the problem of delivery to the target cells still has to be solved, but for RNA interference to be left out dates the book already. Similarly many of the viral and bacterial vectors for vaccine delivery worked on the past few years, such as adenovirus, and salmonella, to name just two, are not included. Even those that are, such as canarypox, are not included in the index. Which leads to my final criticism before summing up—the index is entirely inadequate and mitigates strongly against using this as a book of reference.

So in conclusion, this book represents a flawed gem. Viewed from a certain light it is illuminating, a joy to behold. From other angles, the imperfections are all too obvious. None the less, for a physician or scientist working in the field of infectious diseases or related areas such as STDs or HIV, it provides an introduction to the field of immunotherapy which is both accessible and enjoyable. Read it within the next couple of years before it begins to date further and it will be time well invested. For a specialist in the field it has limited value, except to recommend to trainees or newcomers.

If the editor decides to bring out another edition, he should somehow do the near impossible for multiauthored texts, and ensure they are all up to date. Oh, and also invest in a professional indexing service. Then, there really will be a precious jewel.

Barry S Peters

BOOK REVIEW


I judge this is a jewel of a book, although you would not think so from my comments in the next paragraph.

My initial reaction was one of intense irritation. The preface stated that the intention was to “review the state of the art . . . of this rapidly emerging . . . field.” A bold promise for which the editors had ample time lines and up to date references would be essential. Yet, even though the book was published in 2002, there were very few references from 2001 or even from 2000 in some chapters. To take as one particularly bad example, the chapter dealing with the immunotherapy of HIV had only one reference as recent as 2000, and all the rest were from the last millennium.
Circumcision in genital warts—let us not forget!

S Dogra and B Kumar

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