

HEPATITIS B TRANSMISSION IN CARE HOMES LINKED TO BLOOD GLUCOSE MONITORING, BELGIUM AND UNITED STATES

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In two nursing homes in Flanders, Belgium, four cases of acute hepatitis B infection have recently been detected, linked to the multiple use of blood capillary sampling ('fingerstick') devices on diabetic patients. Another outbreak of hepatitis B transmission in an elderly care home in Belgium, also linked to improper use of these devices, occurred in 2002/3 [1].

In addition, three outbreaks of hepatitis B in care homes for elderly residents, linked to poor infection control procedures during blood glucose monitoring have recently been reported in the United States [2].

In the 2002/3 Belgian outbreak, Flemish public health officials conducted a sero-epidemiological study of 94 residents and 47 nursing staff of a nursing home after a fulminant acute hepatitis B virus infection in an elderly patient was notified. Five residents were identified with acute hepatitis B and two of these died. None of the nursing staff tested positive. Patients with diabetes mellitus who were exposed to a shared fingerstick device for blood sampling were 8.7 times more likely to contract the disease. Other identified potential risks were the shared razor blade of the hairdresser and a pedicure. The outbreak in this home ended after infection control measures were implemented and susceptible residents vaccinated.

In the first care home of the three reported on in the United States, a patient was identified as having an acute hepatitis B infection and later died. The home did not inform the state health department or conduct an internal investigation. After a second patient died of acute hepatitis B, and a third acute infection was reported, all 158 residents were tested. Including the two patients who had died previously, 15 cases of acute hepatitis B were found and 15 patients were immune. Of 38 patients whose blood glucose was routinely monitored, 14 had an acute hepatitis B infection.

A review of infection control procedures at the home revealed that the glucose monitoring apparatus (glucometer) and spring-loaded barrel of the fingerstick device were not cleaned between use, although a new end cap and lancet were used each time. Insulin and other multidose medications were also not labelled with patient names or the dates when the vials were opened. An anonymous staff survey also revealed that some staff members had observed others re-using needles or failing to change their gloves between sampling different patients' blood.

In the second care home, four residents with both diabetes and acute hepatitis B were notified to the state health department. Twenty two of the 25 residents gave permission to be tested, and a further four patients with acute hepatitis B were identified. Six patients were immune and none had chronic infection. The blood glucose levels of all eight infected patients were sampled daily by nursing staff. None of the seven other patients who did their own blood sampling were infected with hepatitis B.

Although residents had their own fingerstick devices, nurses reported occasionally using a device from their own kits on consecutive patients. One glucometer was used for all residents. The wearing of gloves by staff members was discouraged and hand hygiene was poor.

In the third care home, after a case of HBV infection was discovered, all 192 residents were screened. Eleven had acute HBV, and 16 were immune. None had a chronic HBV infection. Of 45 patients whose blood glucose was monitored, eight had acute HBV. Interviews with staff revealed that only single lancets were used, and insulin vials were not shared among patients. However, one glucometer was used for many people, and gloves were not always changed between sampling blood for glucose testing.

Although recommendations concerning standard precautions and the reuse of fingerstick devices have been Published in the US, these

appear not to have been adhered to [3,4]. Blood on glucometers, insulin vials and other surfaces could have been transferred to gloves, other surfaces, and patients. Hepatitis B virus is stable at ambient temperatures and it is possible for infected patients to have a high amount of the virus in their blood or bodily fluid without having symptoms. Some of the residents in the third care home often had blood glucose monitored four times a day despite their blood glucose levels being consistently normal. The index cases described in the report were often not identified or investigated in a timely way, and opportunities to interrupt transmission were missed.

Incidences of hepatitis B transmission linked to blood glucose monitoring in care homes have been reported since the early 1990s [4,5]. A recent outbreak of hepatitis B in a care home in the United Kingdom is currently being investigated, but the route of transmission is still unknown.

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FIRST CASE OF LGV CONFIRMED IN BARCELONA

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In December 2004, a patient presented at the sexually transmitted infection unit of Barcelona with anorectal syndrome. The patient was a 32 year old bisexual man from Colombia who had lived in Barcelona for three months. He had had at least four sex partners in the previous 12 months, and a history of syphilis and gonorrhoea over the previous two years. Culture of a rectal swab for *Neisseria gonorrhoeae* was negative, but direct immunofluorescence testing for *Chlamydia trachomatis* was positive. The case was confirmed using polymerase chain reaction (PCR) as being the L2 genotype. The patient was also tested for syphilis and HIV, but these were negative. This patient had a boyfriend in Barcelona from the Netherlands, whom he reported to be unwell at the time. The patient improved after taking doxycycline. Further contact tracing has not been possible.

This is the second case of LGV to be diagnosed in Barcelona this year; the first was a possible case in September in a patient who had had a sex partner who had been diagnosed with LGV in Amsterdam [1].

In 2003 and 2004, clusters of patients with LGV were identified in the Netherlands, followed by a series of case reports in various European cities among men who have sex with men (MSM), most of whom were HIV positive [2,3]. The European Surveillance of Sexually Transmitted Infections (ESSTI, <http://www.essti.org/>) network established a working group to facilitate information exchange on

LGV in May 2004 [4].

The outbreaks in Europe, which have been concentrated in sexual networks of MSM in large cities, appear to be associated with the sex party scene, and many patients had had numerous anonymous partners abroad. Therefore, contact tracing has been of limited use so far.

Three European countries have recently launched enhanced surveillance programmes: Netherlands in April 2004, the United Kingdom in October 2004 [5], and France in January 2005.

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TWO CASES OF LYMPHOGRANULOMA VENEREUM (LGV) IN HOMOSEXUAL MEN IN STOCKHOLM

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Two cases of the sexually transmitted infection lymphogranuloma venereum (LGV) were detected in men who have sex with men (MSM) in Sweden during 2004. LGV, a rare disease in Europe, is caused by serovars L1-L3 of the bacterium *Chlamydia trachomatis*. Both cases were diagnosed at the Venhälsan gay men's health clinic at Södersjukhuset (Stockholm South Hospital). The first case was clinically diagnosed after reporting symptoms in late January 2004 and the second in November 2004. The patients were 36 and 42 years old respectively and lived in Stockholm. One was HIV positive.

These cases are thought to be connected to the recent outbreaks within Europe, which were reported throughout 2004. Since the first report in January 2004 of an outbreak of LGV in MSM in Rotterdam [1], several outbreaks or cases in MSM in other large cities in western Europe and the United States have been documented [2-5]. The cases in these outbreaks were all affected by severe invasive proctitis. All of these cases included negative urethral swabs, and a majority had previous HIV infection [2,3].

In the previously reported European cases, all patients had proctitis, except for the four cases in Hamburg, who had swollen lymph nodes. The symptoms experienced by the two Swedish patients were different: both men had inguinal lymphadenopathy for one or two weeks before diagnosis; one case had concurrent abscesses. Proctoscopy showed no signs of inflammation. One man had noticed

a small painless papule on his foreskin, about 6-8 weeks previously. The men were tested for *C. trachomatis* infection in urethral and rectal swabs. Urethral swabs for both men tested positive. One man had a urine test that was negative. Sequence analysis was performed in both cases, and confirmed the infecting strains to be LGV genotype L2, the same type identified in the ongoing outbreaks of LGV in MSM in several European cities. The patients were also tested for gonorrhoea and syphilis, but were negative for these infections.

Contact tracing was carried out to identify the source of infection and to detect more cases. One of the patients reported having only one sex partner, in Stockholm, who tested negative. He did not report any other sexual contacts in Sweden or abroad, so it is unclear where he acquired his infection. The other patient reported three male sex partners several weeks before the onset of symptoms: one resident in Stockholm, who tested negative, and two partners who were short-term tourists in Stockholm (from Switzerland and Italy). Both these men returned to their countries before the patient developed symptoms, but have been advised by the patient to seek medical testing.

In the light of the ongoing European outbreaks, Smittskyddsinstitutet (the Swedish Institute for Infectious Disease Control, SMI) intensified epidemiological surveillance in June 2004, in cooperation with the Department of Clinical Microbiology at Uppsala University Hospital and gay men's health clinics throughout Sweden. In Stockholm, the majority of urine samples, urethral and rectal swabs for LGV testing are taken at the Venhälsan gay men's health clinic. They are analysed for *C. trachomatis* at Karolinska University Hospital in Huddinge. Positive samples are then sequenced at Uppsala University Hospital. Through EPI-aktuellt, SMI's electronic infectious disease bulletin, SMI informed the medical community that possible or confirmed cases of LGV (positive for *C. trachomatis*) should be notified to SMI by physicians and laboratories, in accordance with the Communicable Disease Act of 1 July 2004 [7-9]. Notifications should be reported as chlamydia cases, with indication of LGV status. Partner notification is mandatory. Epidemiological data collected includes information about age and sex, probable infection date and infection route.

Samples from ten possible cases of LGV in MSM presenting with proctitis, and diagnosed in other Swedish cities, have also been sequenced, but all were other genotypes of *C. trachomatis*.

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