Community based study of treatment seeking among subjects with symptoms of sexually transmitted disease in rural Uganda

L A Paxton, N Kiwanuka, F Nalugoda, R Gray, M J Wawer, Rakai Project Study Group

Center for Population and Family Health, Columbia University School of Public Health, New York, NY 10032, USA
L A Paxton, *assistant (clinical) director*
M J Wawer, *associate (clinical) professor*

Rakai Project, Uganda Virus Research Institute, Entebbe, Uganda
N Kiwanuka, *field medical director*
F Nalugoda, *field supervisor*

Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD 21205, USA
R Gray, *professor*

Correspondence to: Dr L A Paxton, Centers for Disease Control and Prevention, Mailstop E45, 1600 Clifton Road, Atlanta, GA 30333, USA lap5@cdc.gov

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Two important impediments to the control of sexually transmitted diseases in Africa are unrecognised infections and ineffective treatment of infected people with symptoms.[1] We report on treatment seeking among people with symptoms in a cohort in rural Uganda and quantify the extent to which asymptomatic infections and treatment seeking behaviour may affect control of sexually transmitted disease.

Subjects, methods, and results

The methods and preliminary results of the Rakai STD control for AIDS prevention study have been described in detail elsewhere.[2] Adults enrolled in the initial survey provided specimens (blood, urine, vaginal swabs) to determine baseline prevalence of infection. They were allocated to intervention or control group according to community. At follow up 10 months later the behaviour of people experiencing symptoms between surveys was documented to estimate the proportion of symptomatic infected people expected to seek treatment. We then fitted both baseline prevalence of infection and treatment seeking between surveys to the Piot-Fransen STD control model.[3]

Serum samples were tested for syphilis (TRUST, New Horizons Diagnostics; TPHA, Sero-Tek, Miles Diagnostics) and urine for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* by using ligase chain reaction (Abbott Lcx Probe System, Abbott Laboratories). Vaginal swabs were used for *Trichomonas vaginalis* culture (InPouch TV, BioMed Diagnostics) and Gram stain diagnosis of bacterial vaginosis. All respondents with syphilis in the intervention arm received penicillin treatment in the home while those in the control arm were counselled and referred to local health centres for free treatment. All subjects with possible symptoms of a sexually transmitted disease between study visits were advised to seek treatment at local health centres or project clinics.

In the first survey 12 827 people were enrolled and provided samples from which the baseline prevalence of infection was determined (syphilis 10.0%, gonorrhoea 1.6%, chlamydia 3.1%, and, in women, trichomonas 24.3%, bacterial vaginosis 49.9%). Most were asymptomatic: 53.3% of men and 65.6% of women with gonorrhoea, 91.7% of men and 76.0% of women with chlamydia, and 81.0% of women with trichomonas or bacterial vaginosis reported no symptoms in the previous 6 months.

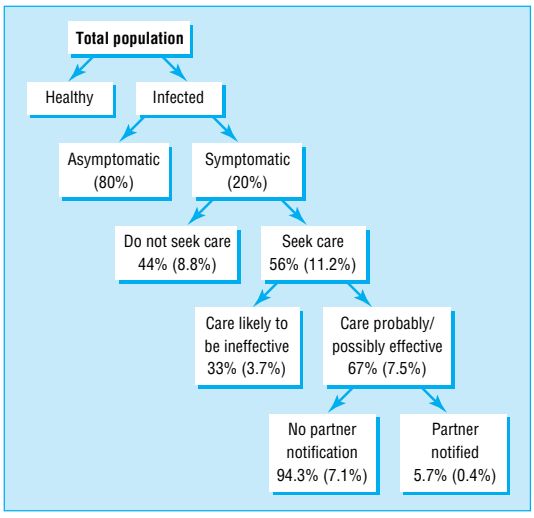
Of the people initially enrolled, 9662 were seen at follow up. In the 10 months between the first and second surveys, 30.4% of women and 9.7% of men experienced genital tract symptoms. Rates were similar in both study arms. Women commonly reported vaginal itching (15.4%), pelvic pain (14.7%), vaginal discharge (9.4%), and genital ulcer (5.5%). Men reported genital ulcer (4.3%), dysuria (4.2%), and urethral discharge (1.7%). Over 40% reported they had done nothing to treat symptoms or prevent transmission and less than 40% of subjects in the control arm who were counselled had sought treatment for syphilis. Overall, 59.1% of symptomatic men and 55.4% of women sought treatment, and only 16.9% and 3.9%, respectively, notified their partners.

Almost three quarters of those seeking treatment used government health centres or private clinics; the rest treated themselves or visited traditional healers. More men than women chose to treat themselves (27.5% *v* 11.3%), while women more commonly resorted to traditional healers (14.7% *v* 5.1%). More than half reported sexual intercourse, and only 4.5% of men and 0.5% of women used condoms while they had symptoms.

Despite studies showing considerable deficiencies in care of people with sexually transmitted diseases within the formal health care sector,[4] to fit the Piot-Fransen model we assumed that people seen at clinics or health centres receive adequate care and that those who treat themselves or use traditional remedies do not. We assumed that people without symptoms do not seek treatment at all and found that less than 8% of infected people in this cohort received adequate treatment.

Comment

In this study of treatment seeking for sexually transmitted diseases we have shown that relying on the treatment of only those with symptoms would reach only a small proportion of the infected population and that many would be unlikely to receive effective care. Thus, sexually transmitted disease control



Proportions of people with sexually transmitted disease who seek and receive treatment in Rakai District, Uganda

programmes in medically underserved populations must take into account both the prevalence of asymptomatic infections and the current health related practices of people with symptoms to design appropriate strategies to reduce transmission of these diseases.

Members of the study group were N Sewankambo, D Serwadda, F Wabwire Mangen, D McNairn, T Lutalo, F Makumbi, and M Meehan.

Contributors: LAP was the resident epidemiological adviser, oversaw the execution of the project, and helped with study design and analysis. NK was trial medical officer and helped in implementing the project, in field work, and in collecting data. FN was trial field supervisor and helped develop data collection and quality conrol procedures and oversaw them. RG was co-principal investigator and contributed to study design, implementation, and data analysis. MJW was the principal investigator, helped with study design, implementation, execution, and data analysis, and is guarantor for the study. N Sewankambo was Uganda principal investigator and was responsible for study design, implementation, and data interpretation. D Serwadda was Uganda co-principal investigator and was responsible for study design, implementation, monitoring, and data interpretation. D McNairn and M Meehan coordinated and supervised in-country laboratory activities. T Lutalo and F Makumbi were data managers and contributed to data analysis and interpretation.

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Competing interests: None declared.

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Drug points

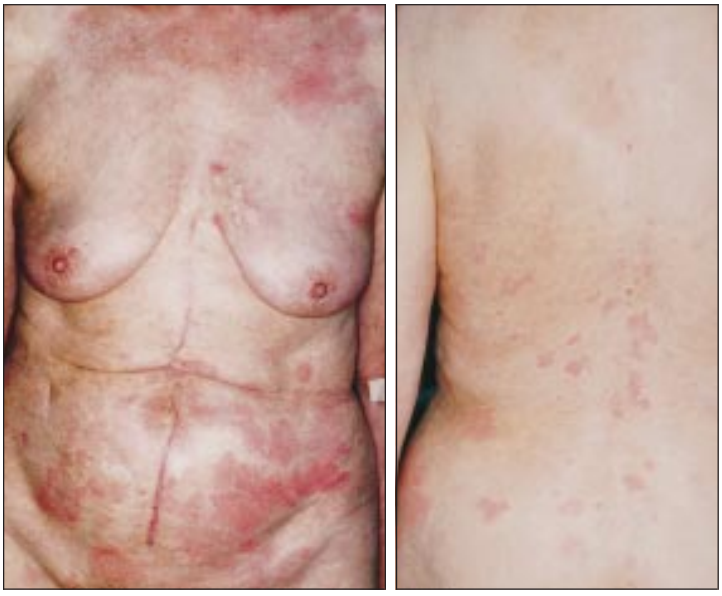
Prolonged urticaria with 17-1A antibody

N Sizmann, H C Korting, Klinikum Innenstadt, Department of Dermatology, D-80337 Munich, Germany

17-1A antibody, a mouse monoclonal antibody, has proved to be efficacious in the adjuvant treatment of colorectal carcinoma of Dukes's type C, reducing the death rate by 30% and the relapse rate by 27%.[1 2] Cutaneous side effects have been reported. We report a case in which skin lesions persisted for months after treatment was discontinued.

A 73 year old woman was diagnosed as having adenocarcinoma of the colon in 1996 and was treated by subtotal colectomy. According to an established treatment protocol, she was given intravenous 17-1A antibody (Panorex) at a dose of 500 mg two weeks before tumour resection, followed by four infusions of 100 mg at intervals of four weeks thereafter. Four days after the second infusion she developed a burning rash characterised by red macules and weals, but she did not have any systemic side effects. Six weeks after the last drug infusion she had sharply demarcated erythematous macules, some of which were as large as the palm of a hand. The lesions were blanched at the centre with discrete brownish discolouration and looked like urticaria (figure). Histopathology of the lesions showed a superficial perivascular dermatitis. Direct immunofluorescence analysis showed a positive reaction at the vessels with C3 complement. Laboratory findings were normal. The lesions did not totally resolve between treatments, and readministration of the drug always slightly increased their severity. The skin lesions disappeared around four months after the last infusion.

The clinical and histological findings as well as the link between repeated infusions and development of the lesions indicated a drug rash, but a causal relation was not finally proved. However, infused antibody elicits both a humoral and a T cell response against idiotopes. Although the induction of an immune response like a cascade might be important for destroying tumour residues, in patients who are almost disease free the concentrations of antibodies might induce allergic reactions.[3–5]



Urticarial rash with 17-1A antibody. Reproduced with patient's permission

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