



Female genital tuberculosis in Uganda

E. Othieno^{a*}, M. Odida^a, G. Gemagaine^a, A. Okwi^a, G.S. Bimenya^a, J. Wandabwa^b.

^aDepartment of Pathology and ^bDepartment of Obstetrics and Gynaecology, Medical School, Makerere University, P.O. Box 7072, Kampala, Uganda

*Correspondence: Othieno Emmanuel: othienoemma@yahoo.com

Abstract

A retrospective clinico-pathological study of 39 cases of female genital tuberculosis (FGTB) observed from 1976 – 1986 was conducted in the Department of Pathology, Medical School, Makerere University. The frequency of FGTB was 30.8% in 1976 declining to 2.6% in 1979 and 1984. There was a 17.9% frequency in 1978 and 10.3% frequency in 1983. The remaining years had lower frequencies. There were no cases reported in 1980 probably because this was the period when there was socio-political turmoil in the country. The most reported symptom was abnormal bleeding, n=14, (35.9%) and the least reported was amenorrhoea, n=8, (20.5%). Some patients reported more than one complaint. The endometrium was the most affected site accounting for 71% of the total sites affected. The least affected site was vulva accounting for 3%. Multiple site involvement was also seen in some patients.

Introduction

Tuberculosis is one of the most important causes of morbidity and mortality in developing countries and the incidence of female genital tuberculosis parallels closely the overall prevalence of tuberculosis in a community. In Nigeria, tuberculosis was diagnosed in 0.7% of gynaecological admissions¹. It was diagnosed in 7.2% of 150 women with infertility and 2.8% of 47 women with gynaecological problems in Chandigarh, India² Tripathy et al examined the incidence of infertility in genital tuberculosis in Cuttack, India and found it to be 58% of 97 cases of infertility with genital tuberculosis studied.³ In New Delhi, Kumar and Mittal found 6.3% of 48 patients with primary amenorrhoea clinically analysed in a period of 3 years to have genital tuberculosis⁴. In Bombay, India, 117 women with a tubal factor were found to have tuberculosis as the cause of tubal blockage.⁵

Method

During the period 1st. Jan 1976 – 31st. Dec.1986, Makerere University Medical School Department of Pathology was the only place which provided histopathology services from within the country and some times beyond. All cases that were reported as female genital tuberculosis were retrieved and recorded. In each case, histological sections and clinical data were retrieved and recorded. Cases which had poor sections were reprocessed. Poorly preserved sections and blocks plus cases which had no clinical details were excluded. All new and old sections for each case were re-examined by the authors.

In Mumbai, India, Chavhan et al ⁶ found genital tuberculosis in 6.3% of all patients who underwent hysterosalpingographs (HSGs) and 7.5% of all patients investigated for infertility. Liomba and Chipangwi found 90 cases of genital tuberculosis diagnosed in Malawi during an 11-year period⁷. In Rwanda, Mukantabana found 6.5% of 92 endometrial biopsies for primary infertility to be caused by endometrial tuberculosis ⁸. In Ethiopia, Abebe et al ⁹ found 25 clinically suspected cases of female genital tuberculosis to be positive after various methods of diagnostic investigation. In Uganda one of the 22 countries with the highest global burden of tuberculosis¹⁰, reports on female genital tuberculosis are scanty. However, tuberculosis accounts for 15000 deaths per year representing 4% of deaths and 3% of Years of Life Lost ¹¹. In this paper we report cases diagnosed in routine histopathology services in Uganda during a ten year period from 1976 to 1986.

Inclusion criteria

All properly stored slides and blocks of female genital tuberculosis with sufficient bio-data seen in the department of pathology between 1st. Jan.1976 to 31st. Dec.1986.

Exclusion criteria

All cases with insufficient bio-data, cases outside the period of diagnosis and those wrongly diagnosed as female genital tuberculosis. Three cases were excluded because of lack of histology materials.

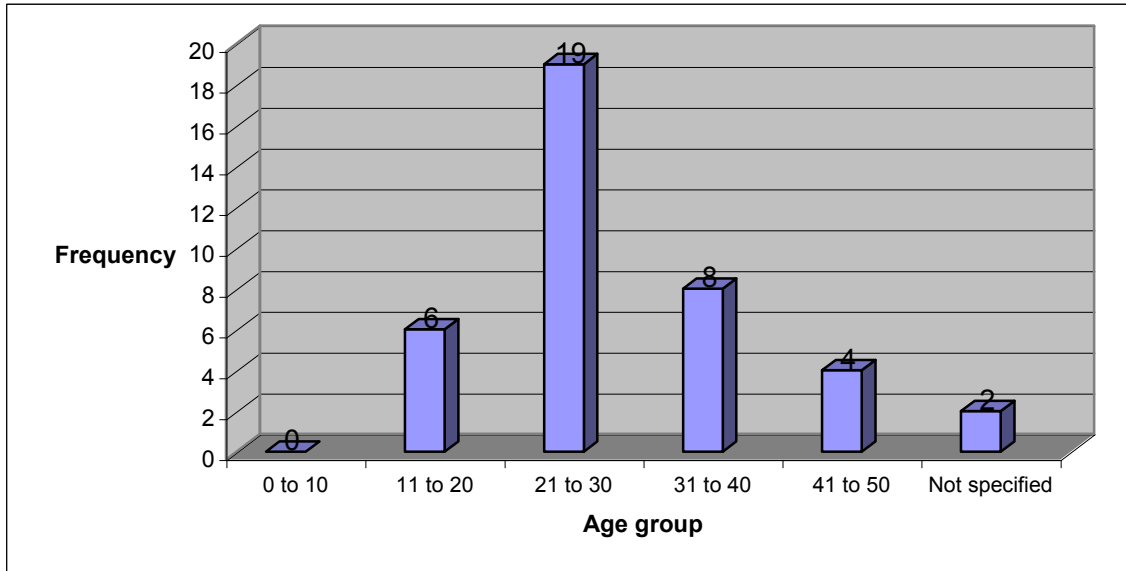
Results

During the study period 1976-1986, 39 cases of female genital tuberculosis were recorded. Patients' age ranged

from 16 to 46 years with a mean of 28 years. The commonest age group was 21-30years representing

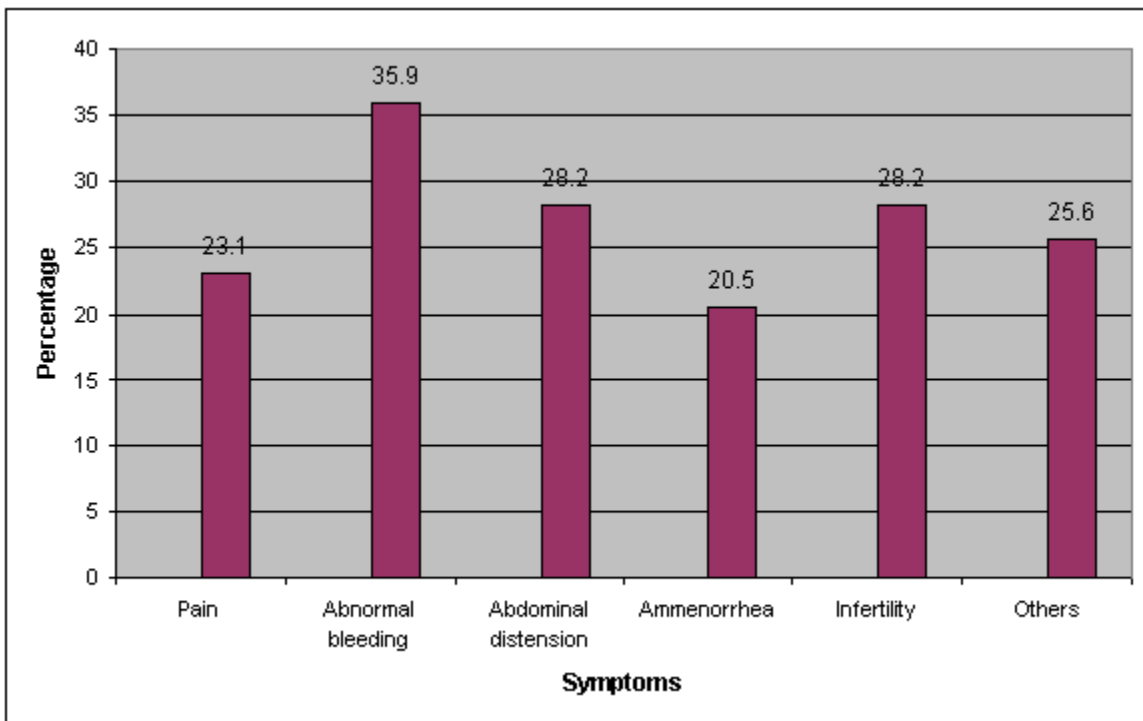
19 cases (48.7% of the cases studied). The summary of age groups and their frequencies is shown in figure 1

Figure 1: Age groups and frequencies



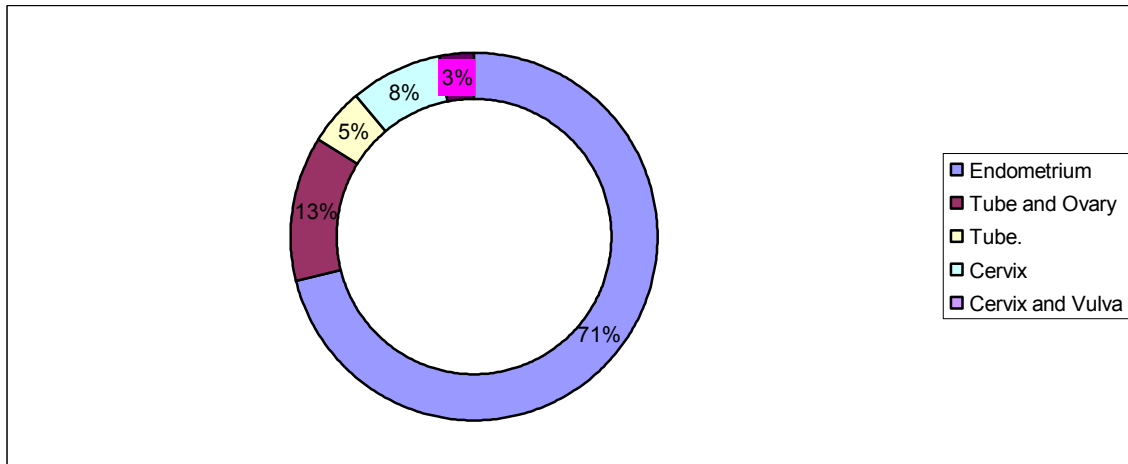
The main presenting symptoms were abnormal bleeding, n =14, accounting for (35.9%), infertility, n=11, (28.2 %), and abdominal distension, n=11, (28.2%). Ammenorrhea was the least complaint reported with n=8, 20.5%. Pain and other complaints accounted for 23.1%, n=9 and 25.6%, n=10 respectively. The total of the percentages above is more than 100% because of multiple symptoms reported in some of the patients. The summary is given in Figure 2

Figure 2. Main presenting symptoms



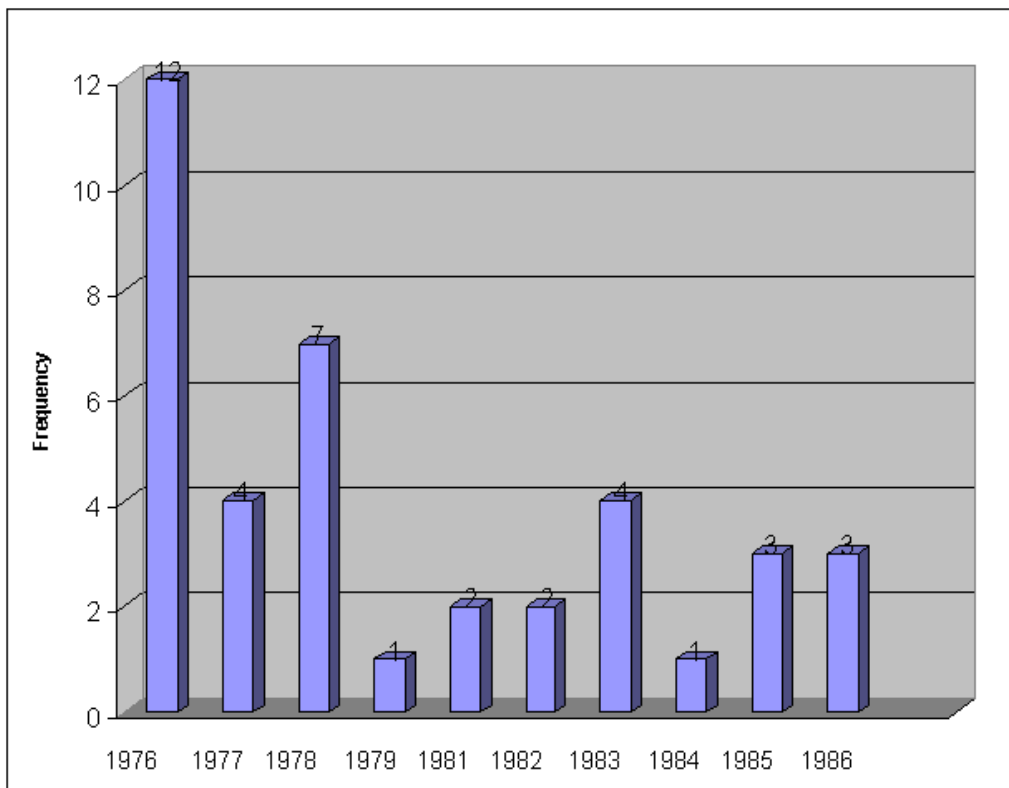
The commonest site involved was the endometrium accounting for n=28 (71%), and the least affected was the vulva representing n=1 (3%), Details are shown in figure III.

Figure 3: Sites involved and their percentages



The number of genital tuberculosis cases received in the department of Pathology between 1976 and 1986 showed 1976 as the year with highest number of cases received n=12. There was undulation decline in subsequent years with the lowest recorded in the years 1979 and 1984 n=1. Since no cases were received in 1980, this year was skipped from the graph. The summary is shown in Figure IV

Figure 4: Number of cases sent for histology from 1976 to 1986.



The health centers which sent genital tuberculosis biopsies between 1976 and 1986 had Mulago national referral hospital and Nsambya hospital sending six cases each, followed by Rubaga and Mutolore with four cases each. The rest of the hospitals sent minimal number of cases with one case as the lowest. The summary of the results is shown in Table 1.

Table 1: The health centers that sent biopsies of the female genital tuberculosis between 1976 and 1986.

Mulago National Referral Hospital	6
Nsambya Hospital	6
Rubaga Hospital	4
Mutolore Hospital	4
Lacor	3
Nyakibale	2
Tororo	2
Bundibujjo	2
Mbale	1
Itojo	1
Masaka	1
Kambuga	1
Kitagata	1
Kisizi	1
Kabale	1
Kitgum	1
Matany	1
Iganga	1

Discussion

Female genital tuberculosis is common in countries where pulmonary tuberculosis is widespread¹². It is relatively frequent in developing countries and most cases occur in young women of childbearing age¹³. Improved diagnostic techniques e.g Polymerase Chain Reaction (PCR) for mpt 64 gene of Mycobacterium tuberculosis (MTB), smear microscopy, culture of tissue and fluid sample, chromohydrotubation, Purified Protein Derivative (PPD) skin test reaction, endometrial curettage and biopsy, histological examination of curettage, hysterosalpingography bacterial examination of menstrual blood, laparoscopy and ultrasonography help in its detection.

According to the results, no cases were seen below puberty. This is in agreement with the general finding that genital tuberculosis is rare before puberty. This was also the finding with a study done in France in 1997 by Benckekroun et al¹⁴. In this study, the commonest site of infection was the endometrium accounting for 71% of the cases. This finding is similar to a study done in Iran in 2001 by Namavar et al¹⁵, which detected TB endometritis in 72.03% of the cases studied. This finding is however different from the study done in Ethiopia in 2004 by Abebe et al¹⁶ which showed that samples taken from the fallopian tubes were more frequently positive than those from the endometrium. It is also different from the study done in Alabama at Birmingham in 2004 by Aliyu et al¹⁷, which showed that the fallopian tube was the organ commonly

affected. A study done in Calcutta Medical Research Institute in 1996 by Chowdhury¹² also found that the fallopian tubes were commonly affected and this represented 95-100% of all cases studied.

A study done in Madagascar in 2003 by Rakoto-Ratsimba et al¹³ also found out that the fallopian tube was one of the common locations followed by endometrium and ovary.

In our study, the commonest location was endometrium basically because it is much easier to access it surgically without affecting the fertility of the woman unlike the fallopian tube which can not regenerate. In other studies, more than one method of diagnosis of fallopian tuberculosis was used and this could probably explain the difference. There was one case of pyometra diagnosed in a 16 year old. This was also one of the findings in a case reported in Italy in 2002 by Patacchiola et al¹⁸ for a 64-year-old patient who had been in menopause for the past 11 years or so. A similar finding was reported in 2004 in Japane Lyomishina Hospital by Hashida et al¹⁹ in an 84-year-old woman. In our study, two cases were clinically diagnosed as cancer of the cervix in 35 and 45 years old women and one case was diagnosed as cancer of the ovary. The number of cases received in the department of pathology showed a fluctuating pattern in which the year 1976 had the highest cases. The years 1979 and 1984 had the lowest cases and 1980 had no cases at all probably due to decline in histopathology services because of political instability during these periods^{20,21}.

Conclusion

This study has clearly shown that female genital tuberculosis generally occurs among women in Uganda as indicated by the health centers that sent the biopsies.

Although the prevalence of female genital tuberculosis was relatively low twenty years ago, the cases of genital

tuberculosis may be higher today because there is increased prevalence of tuberculosis in the country. Therefore, there is a need to carry out further studies in this area

s

References

1. Ojo, O.A.; Onifade, A.; Akande, E.O.; Bannerman, R.H. 1971. The Pattern of female genital tuberculosis in Ibadan. *Isr.J Med Sci*, 7: (2) 280-7
2. Jindal, U.N. 2006. An algorithmic approach to female genital tuberculosis causing infertility. *Int J Tuberc Lung Dis*, 10: (9) 1045-50.
3. Tripathy, S.N.; Tripathy, S.N. 2002. Infertility and pregnancy outcome in female genital tuberculosis. *Int J Gynaecol Obstet*, 76 (2) 159-63.
4. Kumar, A; Mittal, S.1998. Primary amenorrhoea: analysis of 48 cases. *J Indian Med Assoc*, 96: (4) 119-20.
5. Parikh, F.R., Nadkarni, S.G., Kamat, SA., Naik N., Soonawala, S.B., Parikh, R.M. 1997. Genital tuberculosis – a major pelvic factor causing infertility in Indian women. *Fertil Steril*, 67: (3) 497-500
6. Chavhan, G.B., Hiva, P., Rathod, K., Zacharia, T.T., Chawla, A, Badhe, P, Parmar H. 2004. Female genital tuberculosis: Hysterosalpingographic appearances. *Br J Radiol*, 77: (914) 164-9
7. Liomba, N.G., Chipangwi, J.D., 1982 Female Genital tuberculosis in Malawi--a report of 90 cases. *J Obstet Gynaecol East Cent Africa*, 1: (2) 69-72
8. Mukantabana, S. 1985. Infertility in Rwanda. *Imbonezamuryango*, (2) 21-7
9. Abebe, M., Lakew, M., Kidane, D., Lakew, Z., Kiros, K., Harboe, M. 2004. Female genital tuberculosis in Ethiopia. *Int J Gynaecol obstet*, 84: (3) 241-6
10. UNAIDS. 2006. HIV/TB Report Card for 22 TB High Burden Countries.
11. WHO., 2006. Country Health System Fact Sheet Uganda.
12. Chowdhury, N.N.J 1996. Overview of tuberculosis of the female genital tract.
13. *Indian Med Assoc*, 94: (9) 345-6, 361.
14. Rakoto-Ratsimba, H.N., Samison, L.H., Razafimahandry, H.J, Rakotomalala, V.N., Ranaivozanany, A. 2003. Bartholin gland tuberculosis: a case report in Madagascar. *Med Trop*, 63: (6) 608-10.
15. Benchekroun, T.S.; Kriouil, A.; Belkacem, A., Jorio-Benchraba, M.; el-Fakir, Y.; Benhammou, M.; Outarahout, O., el-Malki, T.A. 1997. Urogenital tuberculosis in children. *Arch-Pediatr*, 4: (9) 857-61
16. Namavar, J. B., Parsanezhad, M.E., Ghane, S., R. 2001. Female genital tuberculosis and infertility. *Int. J Gynaecol obstet*, 75: (3) 269-72.
17. Abebe, M., Lakew, M., Kidane, D., Lakew, Z., Kiros, K., Harboe, M. 2004. Female genital tuberculosis in Ethiopia. *Int. J Gynaecol obstet*, 84: (3) 241-6.
18. Aliyu, M.H., Aliyu, S.H., Saliyu, H.M. 2004. Female genital Tuberculosis: a global review. *Int J Fertil Womens*, 49: (3) 123-36.
19. Patacchiola, F., Di Stefano, L., Palermo, P., Di Berardino, C., Coppola, G., Mascaretti, G. 2002. Genital tuberculosis in a menopausal woman. A case report.
20. *Minerva Ginecol*. 54: (3) 287-91
21. Hashida, H., Hamayama, Y., Honda, T., Aibara, Y. 2004 A case of tuberculosis Pyometrium concurrent with tuberculosis pleurisy. *Nippon Ronen Igakkai Zasshi*. 41: (1) 117-20.
22. Okwi, A.L., Byrugaba, W. 2000. The trend of the prevalence of Kaposi's sarcoma in the Uganda biopsy service before and during AIDS era. *Uganda Medical Journa,l* 17: (1) 5-10. Byrugaba, W., Okwi, A., Othieno., E., Bimenya., G.S. 2004. Biopsy service contribution to patient care in Uganda. 1965-2000. *The Journal of the Uganda Society*. 50: 110-116.