

HUMAN UROGENITAL MYIASIS CAUSED BY CHRYSOMYIA BEZZIANA

T. Jdalayer
M. Maleki
M. Moghtaderi

Myiasis caused by the larvae of *Chrysomyia bezziana* has been reported in man, cattle, water-buffalo, sheep, goats, horses, donkeys, dogs, camels and elephants from Asia and Africa (1). Although human infestation with this parasite is commonly found in cattle-raising areas (2), cases of urogenital myiasis are rarely reported.

This is the first case report of urogenital infestation with the larva of *c. bezziana* in Iran.

CASE REPORT

A 36 year old female was admitted to the emergency ward of Sorraya Teaching Hospital, Isfahan University. The main complaints were: severe abdominal pain and slight dysuria.

On physical examination some tenderness at the lower part of the abdomen was observed. Vital signs were normal. The woman was suspected to suffer from appendicitis, but this was ruled out by additional supplementary examinations. Due to the slight dysuria and a tingling feeling at urethral region, the genital organ was carefully examined. On examination, at the urethral aperture, a moving, whitish, wormiform organism was observed. The organism was removed, preserved in 10% formaldehyde solution and later identified as a *c. bezziana* larva.

Twelve hours after the removal of the larva all symptoms disappeared and the patient was discharged after two days.

Identification of the larva was made on the basis of general morphology, structure of fore-part (fig. 1), and also the structure of the posterior peritremes (fig. 2); at the Parasitology Division, Pathobiology Department, School of Medicine, Isfahan.

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ABORTION IN RELATION TO SOME SOCIO-ECONOMIC FACTORS

A. Madjd*
S. Kohansedgh*
H. Malek-Afzali**

ABSTRACT

The data for this study has been collected from a questionnaire examining the relationship between birth weight of the new born and some physical and socio-economic characteristics of the mother. Between Dec. 1975 to Jan. 1976, 1553 women who had referred to two hospitals in Tehran for labour: 981 to Farah Maternity and 572 to Firoozgar Hospital have been interviewed. The results of the study have indicated that women who had referred to Firoozgar Hospital, were older, more literate, had higher per capita income, used more contraceptives and had fewer pregnancies, all these figures are statistically significant. Total abortion rate is 7.9%, these figures for Firoozgar Hospital and Farah Maternity are 10.4% and 6.2% respectively, statistically significant. Regression analysis indicates that factors such as age of the mother, literacy, household income, husband's job position are not significant towards increase of abortion rate amongst these women, but when these factors are fixed and place of reference is analyzed this variable becomes significant, indicating other operant factors apart from socio-economic factors towards increase of abortion, which have not been considered in this study. Parity regardless of the above factors increases abortion rate and for each increase in the number of pregnancy, mean number of abortion is increased by 0.09.

* Department of Human Ecology, School of Public Health and Institute of Public Health Research, Tehran University.

** Department of Epidemiology and Biostatistics, School of Public Health and Institute of Public Health Research, Tehran University.

INTRODUCTION

Spontaneous abortion has traditionally been reported as 10% of all pregnancies with recent studies suggesting this figure to be as high as 15%(1). Incidence of abortion varies in places where abortion has been legalised, although actual figures are not known but estimation of abortion rates have ranged between 26%-45% for the world(2). Various studies have indicated a J shaped relationship between pregnancy wastage and maternal age or birth order(3). Recent studies have suggested the role of socio-economic factors in the incidence of these abortions(4). This paper examines the relationship between abortion rates and some family and socio-economic characteristic amongst two samples of Iranian women in Tehran.

MATERIAL AND METHOD

The data for this study has been collected from a questionnaire designed to examine birth weight of the new born and socio-economic factors of the mother. This study was carried out in Tehran at two hospitals: Farah maternity (code 1) and Firoozgar Hospital (code 2) between December 1976 to December 1977. Farah maternity is situated in the southern part of Tehran, a relatively poor, crowded area and women from different districts in Tehran and surrounding suburbs refer for labour. Generally no antenatal care is provided and women are usually admitted prior to their labour. Firoozgar Hospital is situated in the northern part of Tehran, relatively richer district, has limited acceptors for labour, mainly from those who have had antenatal care in that hospital. 1553 women who had referred for labour and had given birth to live children were interviewed after labour. The sampling was selected at random, two days a week was allocated for Farah and two days for Firoozgar (at Farah maternity after delivery women are kept for a few hours whilst in Firoozgar they generally stay for 2-3 days. The interviews were carried out by ourselves and the girls who had received prior instruction for interviewing techniques. Questions were asked regarding age, socio-economic status, literacy state, etc. of the mother, and as for obstetric history, number of pregnancies, number of still birth and number of abortion (termination of pregnancy before 28 weeks of gestation) were recorded. No attempt was made to differentiate between spontaneous or induced abortion. The figures for this study represents only the number of abortions and not still births.

CHARACTERISTICS OF THE SAMPLES

The sample consists of 1553 women of which 981 were admitted to Farah maternity and 572 to Firoozgar Hospitals respectively.

As noticed in table (1) 66% of women who had referred to Farah maternity are less than 25 years of age whilst this figure is 59% for Firoozgar hospital. Mean age for women at Farah maternity is 23.3, and 23.95 for Firoozgar respectively. Showing that the sample under examination generally consists of young women on the whole, and those who had referred to Farah are younger. $P = 0.05$.

Mean per capita income for these families is 490 tooman (table 1) but as pointed out in table 2 this mean is higher for Firoozgar group. $P = 0.01$.

The educational status of these women was classified into illiterate, literate with either elementary or secondary education. 824 (53%) are illiterate, the rest having elementary or secondary education. 609 or 64% of women who had referred to Farah maternity are illiterate whilst this figure is 219 or 36% at Firoozgar. $P = 0.01$.

591 or 38% women had used some kind of contraceptive whilst 962 (62%) had never used any method. For women referring to Firoozgar who had never used any type of contraceptive the number is 331 or 51% whilst this figure is 627 or 66% for Farah maternity. $P < 0.01$.

The job classification for male head of household (husband) for this study has been into two groups only. One group consisting of unskilled labourers and the second group skilled labourers and clerical staff. 718 or 42% are unskilled labourers whilst the rest are skilled labourers and clerical staff. As shown in table 2 the number of skilled labourers etc. is higher amongst the Firoozgar group. $P < 0.01$. Table 3 shows simple correlation coefficient between variables under examination. With reference to the size of this sample the correlation coefficient at $r = 0.065$ is significant for $P = 0.01$, and at $r = 0.051$ is significant for $P = 0.05$.

Considering the above variables with the place of reference (hospitals) one can see that women who had referred to Firoozgar Hospital were generally older, had fewer pregnancies, had higher abortion rates, used more contraceptive, had generally higher income, higher literacy rate, better job position for their husbands than those who had referred to Farah maternity. Considering all the above factors we can assume that the Firoozgar group belong to a higher socio-economic class.

RESULTS

If number of abortion is shown by Y and the variables of place of reference, age, number of pregnancies, use of contraceptives, husband's job, household income, literacy state of the mother is shown by $x_1, x_2, x_3, x_4, x_5, x_6, x_7$, respectively, and suppose that for fixed value of variables considered, number of abortion has a normal distribution with the mean $Y = B_0 + B_1x_1 + B_2x_2 + B_3x_3 + B_4x_4 + B_5x_5 + B_6x_6 + B_7x_7$ and equal variance (this assumption is essential for statistical analysis). From variables considered high correlation with number of abortion is due to number of pregnancy. When the effect of number of pregnancy is fixed the highest correlation is due to the place of reference. But excluding the effects of pregnancy and place of reference no other variable shows any significant correlation, in other words, there is no significant correlation between other variables and the number of abortion when the number of pregnancies and place of reference are fixed. For the two variables included in the regression equation, the Null hypothesis $B_1 = B_2 = 0$ is rejected ($P < 0.001$) and it can be concluded that there is a linear relationship between number of abortion and the two factors place of reference and number of pregnancies estimates as follows:

$$Y = -0.1935 + 0.1261 x_1 + 0.0862 x_3.$$

DISCUSSION

1. Women who have referred to Firoozgar hospital, have had a higher rate of abortion even though the number of pregnancies has been fixed. As pointed out in the results these women generally belong to a higher socio-economic group. The mean number of abortion is 0.13 higher amongst this group of women than Farah maternity. Analysis of factors such as age, educational status, income, husband's job position, literacy have not been significant towards increase of abortion, when the place of reference and number of pregnancies are fixed. So it can be stated that factors which have been analyzed in this study, have not excluded the effects of place of reference. Therefore we can propose that other factors which have been operant in changing the abortion rates in these two places have not been considered in this study.

2. Increase of number of pregnancies even though the place of reference is fixed increases the number of abortions, and for each one increase of pregnancy 0.09 is added to the mean number of abortion.

Table 4 shows mean number of abortion for each women according

to the number of pregnancy and the proportion of abortion to number of pregnancy for the group referring to Firoozgar and Farah maternity respectively. The important point in this analysis is that the proportion of pregnancies that is terminated by abortion is higher amongst women who have fewer children in Firoozgar Hospital than in Farah Maternity though this difference disappears when the number of pregnancies is high in both places.

In conclusion, although the data collected does not show a high rate of abortion (7.9%) amongst all women (the study reported by Dr. Nahapetian et al shows that this figure to be 11%) (Ref. 5), nevertheless with reference to the mean age which shows a relatively young group of referees, and with the difference in the rate of abortion noted in the two group. (10.4% for Firoozgar and 6.2% for Farah maternity hospital respectively). One cannot relate this figure or the difference in these figures to be simply due to spontaneous abortion. Analysis of many of the socio-economic factors (whilst fixing the number of pregnancies) such as education; literacy, higher income etc. are not significant towards generating difference of abortion rate amongst these groups of women, but when place of reference is analyzed the difference becomes significant, therefore, apart from socio-economic variables other factors must be operant towards this increase which have not been considered in this study and a further study with inclusion of not only socio-economic factors, but attitudinal as well as other possible operant variables such as degree of religiousness and practice should be considered.

Added to this, number of pregnancy increases the abortion mean even though the place of reference are fixed and this trend is more evident amongst women with fewer children than with women of very high parity, indicating a possible use of abortion for family planning reasons at an earlier age.

TABLE 1

Frequency distribution of women according
mother's age and place of reference

Age	Place of reference						Total	
	Farah		Firoozgar		Total		No.	%
	No.	%	No.	%	No.	%		
15-19	326	23.3	131	22.9	457	29.4		
20-24	323	32.9	209	36.5	532	34.2		
25-29	148	15.1	130	22.7	278	17.9		
30-34	94	9.6	64	11.2	158	10.2		
35-39	72	7.3	34	6	106	6.8		
40+	18	1.8	4	0.7	22	1.4		
Total	981	100	572	100	1552 ³	100		100

TABLE 2
Mean and S.D. of Variables

Variables	Firoozgar No= 602		Farah No= 951		Total No= 1553	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Age	23.95	5.62	23.31	6.39	23.56	6.11
Number of Pregnancy	2.87	2.22	3.19	3.40	3.03	3.00
Number of abortion	0.29	0.88	0.20	0.58	0.24	0.71
Use of contra- ceptive (A)	1.55	0.49	1.66	0.47	1.62	0.48
Husband's job position (B)	1.71	0.49	1.42	0.49	1.53	0.51
Monthly per capita income (tooman)	630.02	582.05	401.52	276.25	490.10	479.82
Number of Household	4.26	1.60	4.50	1.90	4.41	1.79
Litteracy of mother (C)	1.64	0.47	1.36	0.48	1.47	0.49

- A. Code 1. Women who have used some kind of contraceptive.
 Code 2. Women who have not used any kind of contraceptive.
 Therefore with increase of mean, the number using
 contraceptives becomes fewer.
- B. Code 1. Unskilled labourers
 Code 2. Skilled labourers and clerical staff.
 Therefore with increase of mean the number of skilled
 labourer, or clerical staff become higher.
- C. Code 1. Illiterate women
 Code 2. literate woman
 With increase of mean the number of literate women is
 increased.

TABLE 3
Correlation coefficient of variables under study

Variables	Place	Age	No. of pregnancy	No. of abortion	Use of Contraceptive	Husband job position	monthly per capita income	Mother's education
Place	1							
Age	0.58	1						
No. of pregnancy	-0.65	0.634	1					
No. of abortion	0.63	0.229	0.355	1				
Use of contraceptive	-0.128	-0.338	0.234	-0.68	1			
Husband's job position	0.291	0.69	0.82	0.22	-0.13	1		
Monthly per capita income	0.243	-0.232	-0.235	-0.45	0.108	0.468	1	
Mother's education	0.284	-0.240	-0.247	-0.62	0.17	0.302	0.299	1

TABLE 4
 Mean number of abortion and proportion of abortion
 to number of pregnancy according to the number of pregnancy
 and place of reference

Number of pregnancy	P L A C E			
	F A R A H		F I R O O Z G A R	
	Mean number of abortion	Proportion of abortion to number of pregnancy	Mean number of abortion	Proportion of abortion to number of pregnancy
1	0.02	0.02	0.14	0.14
2	0.10	0.05	0.23	0.12
3	0.19	0.06	0.32	0.11
4	0.28	0.07	0.40	0.10
5	0.36	0.07	0.49	0.10
6	0.45	0.08	0.58	0.10
7	0.54	0.08	0.66	0.09
8	0.62	0.08	0.75	0.09
9	0.71	0.08	0.83	0.09
10	0.79	0.08	0.92	0.09

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