RESULTS

In the present work, thirty subjects were chosen to be candidates for our cytogenetic analysis by the G- banding technique (10 normal control males and 20 patients referred suffering from primary sterility and are azoospermic. They were clinically investigated and non of them happened to receive any drug for at least 6 months previous to the chromosomal analysis. Accordingly they were classified into 2 groups:-

GROUP 1:-

10 clinically normal males. All metaphases studied (20 for each one) showed a modal number of 46. They were arranged in groups (Karyotyped).(46, XY) ,(tab. 2 , fig. 8) .

Fig 8 shows a metaphase for a normal control male

Group A (1-3):- Include the largest 3 pairs. They are metacenteric. The chromosomes pair number two is easily distinguished from the first and the third pair through the

position of the centromere. It is not exactly median in position but this pair has two unequal arms. On the other hand,, the pairs number one and three have two equal arms.

Group B (4-5) includes the chromosome s pairs number 4 and 5. They are nearly as large as those of the first group. However the centromere is very much shifted towards the end of the chromosome. Therefore, they show a clear size difference between the 2 arms. They are large submetacenteric autosomes. The long arm is nearly 4 times as long as the short arm. However, they are rather difficult to identify from one another by the regular Giemsa staining method.

GROUP C (6- 12) : Consists of 7 pairs of medium sized submetacenteric chromosomes. The X- chromosomes resembles the longer pair of autosomes of this group. Therefore, this group of medium sized chromosome is only 15 in the metaphase of males. This group can be arranged in a descending order according to the total chromosomal length. However, some of the autosomes are land marks. The autosome pair C- 6 is very much similar to the X-chromosome. The pair C-8 and C- 11 have the centromere close to the middle of the autosome more than any other member group, but the pair C-8 is definitely larger than C-11.

GROUP D: (13-15) : Is the group of large ACROCENTERIC autosomes, it includes the pairs 13,14,15. Each of them consists of a comparatively very short and a very long arm. They frequently show satellites which have the form of very small knobs attached to the short arm by a very thin filament. The autosomes of this group can be arranged in a descending order according to their length.

GROUP E (16-18): It includes 3 pairs of autosomes. The pair number 16 is a land mark. It is definitely METACENTERIC. Those autosomes number 17 and 18 have the centromere far from the midlength of the autosome. The pair number 17 is larger and has a more conspicuous short arm than those of number 18.

GROUP F(19- 20): Consists of 2 pairs of small METACENTERIC autosomes. The centromere is exactly in the middle. This group includes chromosomes number 19 and 20.

GROUP G (21-22): Is the group of small ACROCENTERIC autosomes. In their general appearance, they look very much like those of group D (13- 15), but they are markedly small erin size. They also may bear satellites. The Y- chromosomes is very similar to autosomes of those group. However ,it does not bear any satellites.

No aberrations could be seen in the different bands of this group.

Fig. (8) :

Shows Karyotyping of a normal male (46, XY)

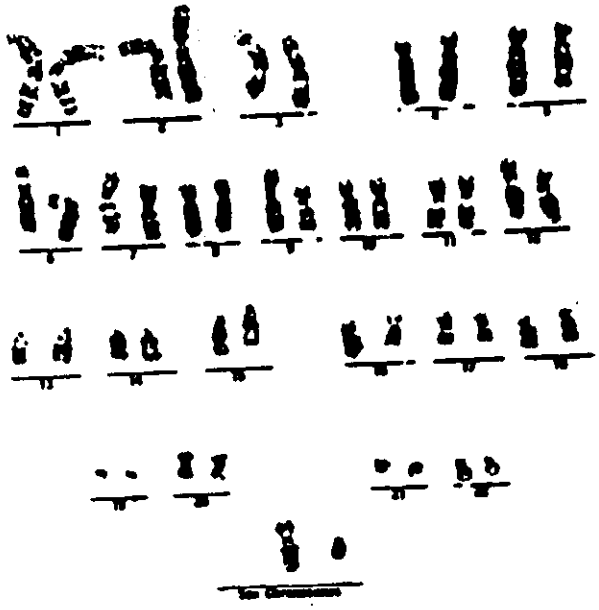

Table 2:

Findings of the metaphases of group 1 (control group)

Case number	Age	Duration of marriage	Metaphase analysis	
			Karyotyping	Chromosomal anomalies
1	30	3	46,XY	-
2	40	2	46,XY	-
3	35	4	46,XY	-
4	39	5	46,XY	-
5	28	3	46,XY	-
6	31	4	46,XY	-
7	35	5	46,XY	-
8	30	2	46,XY	-
9	33	7	46,XY	-
10	29	3	46,XY	-

SEMEN ANALYSIS:- (Tab. 3)

The volumes of the whole ejaculates ranges from 2.9- 5.0 ml with a mean value of 3.98ml. All ejaculates were greyish-white in colour and had normal odour and viscosity. Liquefaction occurs at 20 minutes. The concentration appears (Sperm count) ranged from 60 to 100 million /ml with a mean value of 78.4 million /ml

The motility: the% of motile sperms in whole ejaculate ranges from 59- 90 % with a mean value of 75.6 . The % of normal forms range from 62 to 85 % with a mean value 75,.4

Table 3:

Showing the volume of semen ejaculate, count, percentage of motility and percent of normal forms of sperms in the whole ejaculate of the normal group.

Case number	volume in ml	count million/ml	% of normal forms	Motility %
1	2.9	95	63	85
2	5.0	68	76	59
3	4.8	80	80	70
4	3.2	75	62	85
5	4.7	89	85	70
6	3.0	75	76	85
7	4.0	61	75	72
8	4.3	81	87	80
9	3.1	60	80	60
10	4.8	100	70	90
Mean	3.98	78.4	75.4	75.6

GROUP 2 (AZOSPERMIA):- (Fig. 9)

Twenty male patients suffering from primary infertility with azospermia (Table 4), showed that the age of the studied group ranged between .Twenty and fourty two years old with a mean of 32 years. The marriage duration was between 2 and 14 years with a mean of 7 years. One of the married case had married twice, another case was extraordinary tall. Consanguinity is not recorded in any one case and no other family members gave a history of infertility. Karyotyping analysis of this group is presented in (table(4) and fig (4)).The modal number of all metaphases studied is 46 with the exception of one case (5%) who was extraordinary tall showed a modal number of 47,XXY which means KLINFILTER (case number 10)

Case number 6 showed a RING chromosome which seems to be the missing Y chromosome 46,Xr (Y)

Case number 4, 11 and 13 showed 2 modal number of 46 but the Y chromosomes in these cases is short that seems to be deleted Y chromosomes. (46, XY -)

Case number 14 has deletion in one of the eleven chromosomes, as well as a short Y chromosome (del Y). The

remaining 14 cases (70 %) did not demonstrate any major aberrations to be detected by the light microscope.

Fig. (9) :

Showing a Klinefelter syndrome (47, XXY)

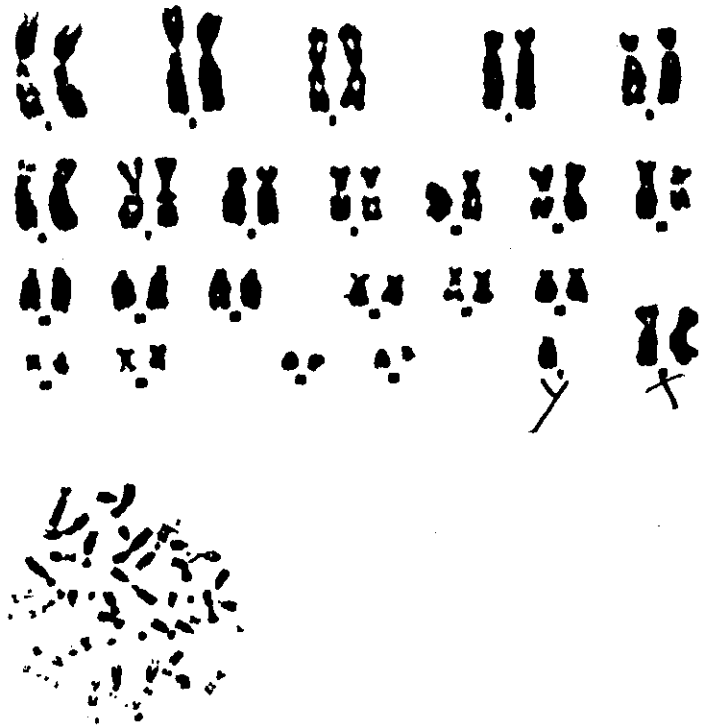

Fig. (10) :

Shows a Ring (Y) Chromosome (46, Xr (Y))

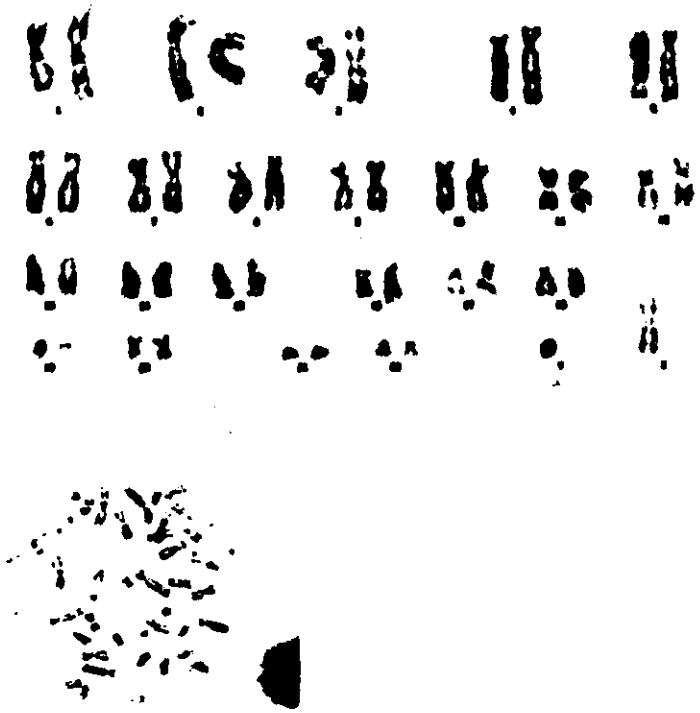

Fig. (11) :

Shows a deleted Y, 11 (46, XY-, 11)

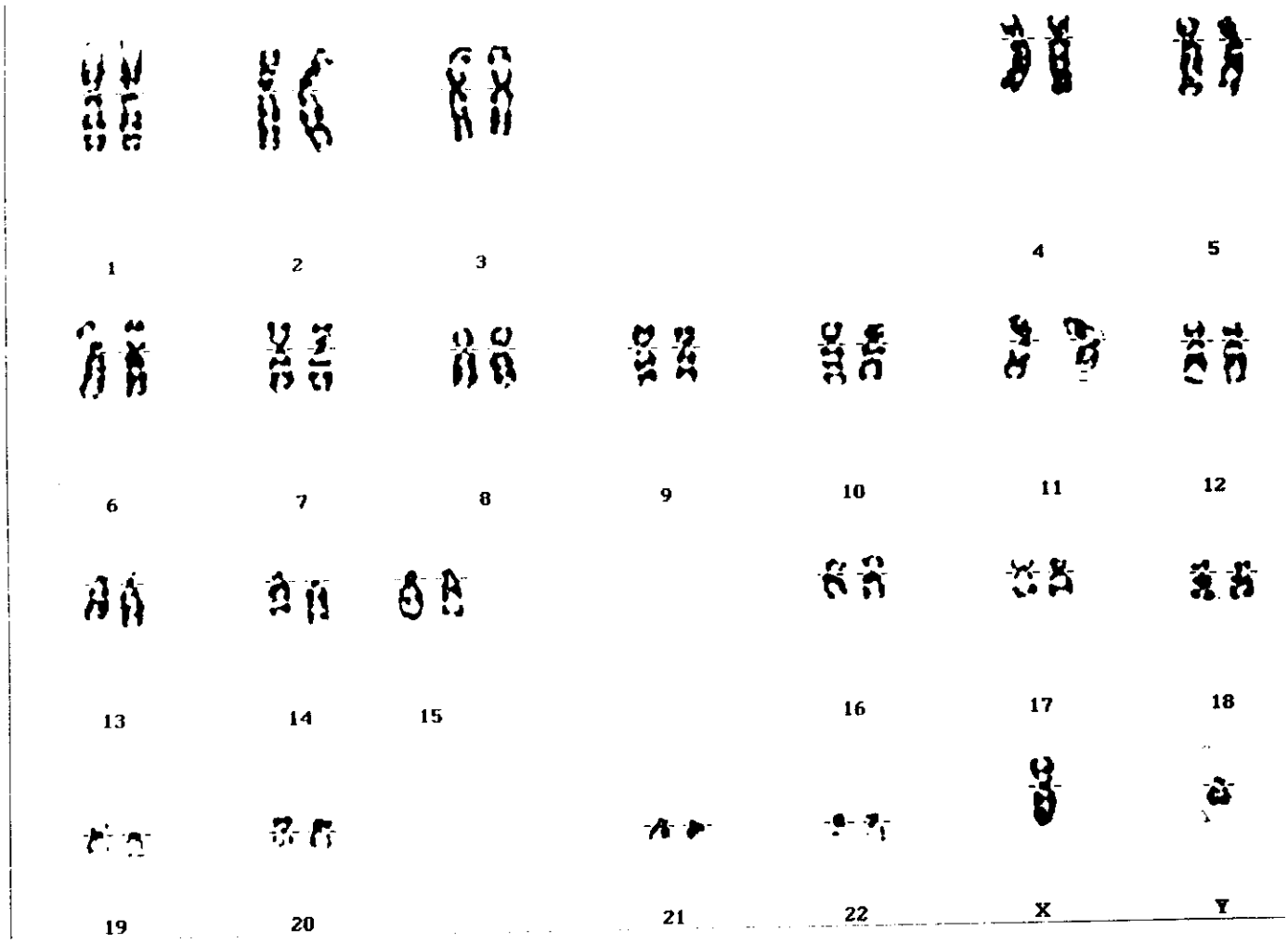

Table 4:

Showing the cytogenetic and clinical findings of group 2.

Case number	Age	Marital history		karyotyping of group 2		Clinical findings
		Duration	once before	Consang uinity	Karyotypi ng	
1	33	6	-	-	46,XY	History of undescended testis
2	28	4	-	-	46,XY	Hydrocele
3	37	9	-	-	46,XY	No abnormality
4	30	7	-	-	46,XY(q-)	History of undescended testicle
5	28	5	-	-	46,XY	Testicular atresia
6	40	10	+	+	46,Xr(Y)	Mental retardation and testicular atresia
7	25	2	-	-	46,XY	No abnormality
8	39	4	+	+	46,XY	Small testicle
9	37	10	-	-	46,XY	Hydrocele
10	38	13	-	-	47,XXY	Small testicle
11	31	5	-	-	46,XY(q-)	Testicular atresia
12	29	7	-	+	46,XY	No abnormality
13	35	8	-	-	46,XY(q)	Undescended testicle
14	23	3	-	-	46,XY(q 11)	Testicular atresia
15	24	2	-	-	46,XY	No abnormality
16	30	13	-	-	46,XY	Hydrocele
17	40	4	-	-	46,XY	No abnormality
18	27	2	-	-	46,XY	Testicular atresia
19	39	6	-	-	46,XY	Hydrocele
20	35	2	-	-	46,XY	No abnormality