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بعض الدراسات الاكلينيكية على الرميون (باير) فى الجاموس

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- أخرى هذا البحث على ٢٤ جاموسة وقد أعطى فى أربعة جرعات ٠.٢ ، ٠.٣ ، ٠.٥ ، ٠.٧ . مجم لكل كيلو جرام من وزن الحيوان .
- وقد سجلت فترات ظهور التأثير ومدته فى كل جرعة .
- وقد لوحظ أن أحسن جرعة مؤثرة يمكن بواسطتها فحص الحيوان جيداً هى ٠.٣ . مجم لكل كيلو جرام .
- وقد سجلت التغيرات فى درجة الحرارة ومعدل النبض والتنفس وحركة الكرش .



## SOME CLINICAL STUDIES ON ROMPUN (BAYER) IN BUFFALOES

(With 3 Tables & 4 Figures)

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### SUMMARY

Rompun (Xylazine) was tried on 24 buffaloes in four dose rates (0.02, 0.03, 0.07 mg. kg. B. Wt.). The onset and duration of the sedative effect of the drug as well as the clinical signs were recorded.

Several increased dosages of Rompun were administered. The best effective and safe dose was found to be 0.03 mg/kg. b.wt. Animals became docile after 15 minutes and showed calmness and were easily examined for 85 minutes. The temperature of the animals was increased after injection, while pulse, respiration and ruminal movement were decreased.

### INTRODUCTION

Recently Rompun has been widely used as a relaxing and highly sedative analgesic in different species of animal (EL-AMROUSI and SOLIMAN, 1965; ROSENBERGER *et al.* 1968; KHAMIS and SALEH, 1970; FOUAD and SHOKRY, 1973; and MOTTELIB and EL-CINDI, 1974).

In Egypt, buffaloes one of the most economical to handle. Therefore, it is necessary to bring them to a state of calmness to overcome excitement, resistance during examination, treatment and surgical interference.

This study is an attempt to determine the minimal dose producing sedation and facilitate the examination and treatment of buffaloes.

### MATERIALS AND METHODS

Twenty four clinically healthy buffaloes were used in the present study. Their ages ranged between one and eight years and weights between 200 and 600 Kg. Animals were divided into four groups each comprise 6 individuals. The respective groups received 0.02, 0.03, 0.05 and 0.07 mg/kg. b.Wt. of Rompun. The drug, in the form of 2% solution, was injected by the intramuscular route. Degree of sedation, duration and clinical response were observed during and after injection.

### RESULTS

Dryness of the muzzle, abolition of fear, calmness, drooping of the head, neck and eyelids were noticed post-injection. Care response became sluggish and the animal tend to lie down. All animals were unable to eat or ruminate for two hours, as well as salivation was noticed in large quantities. The rumenal movements were decreased for two hours and in some vases stopped for  $\frac{1}{2}$  to 1 hour. One hour post-injection, the pulse and respiratory rates were decreased. Few exceptional cases, recorded a progressive elevated temperature for the first three or four hours after injection. The degree of sedation and duration vary according to the injected dose (Table 1).

Group 1 : received 0.02 mg/kg b.wt. of Rompun.

The onset of the drug's action became manifested after an average period of 35.8 minutes post-injection and was indicated by slight sedation that persisted for an average period of 20 minutes, after that the animals regained their normal character. It was possible to examine the animals with care.

Group 2 : received 0.03 mg/kg. b.wt. of Rompun.

The onset of the drug's action became clear after an average period of 15 minutes. It was observed that, sedation became clear, response of the animal to external stimuli became sluggish. Milk fever position was noticed (Fig. 1) with salivation and the animals have no ability to eat or drink. Animals showed staggering gait, and moved with difficulty. Dryness of the muzzle became evidenced with protrusion of the tongue and slight protrusion of the penis. Drooping of the lower jaw was noticed in some cases. It was noticed that, sedation remained for 85

minutes in average, and it was easy to examine the animals without any danger (Fig. 2). Temperature was elevated to maximum after three hours, pulse decreased after one hour and respiratory rate decreased after three hours, as well as, ruminal movements decreased or in some cases stopped after 30 minutes (Table 2). The animals appeared to be normal after 24 hours.

Group 3 : received 0.05 mg/kg. b.wt. of Rompun.

The onset of the Drug's action became obviously after an average period of 5.3 minutes. Sedation, drooping of head, neck and eyelids became clear (Fig. 3). The animals became docile and easily examined without any harm, after 15 minutes. All above mentioned symptoms in group 2, appeared in this group but in a stronger action and a longer duration which remained for an average period of 173.3 minutes.

Changes in temperature, pulse, respiratory rates and ruminal movements are recorded in table 3.

Group 4 : received 0.07 mg/kg. b. wt. of Rompun.

The onset of the drug's action became manifested after an average period of 4 minutes. Sedation appeared clear after 10 minutes. There was dryness of the muzzle, drooping of the head, neck and eyelids. General muscular weakness accompanied by sluggish reflexes after 25 minutes and the animals recumbent without care taking milk fever position and drooling large amounts of saliva. It was easy to apply suturing of the skin, to take testicular biopsy (Fig. 4), to correct and treat the claws, and to shorten the horns. Sedation and in some animals sleeping period remained for an average period of 190 minutes.

## DISCUSSION

In view of our findings, it was found that the best effective and safe dose in buffaloes was 0.03 mg/kg. b. wt. given intramuscularly. By such dosage the effect of the drug could be reached within an average period of 15 minutes. The previously mentioned clinical manifestations simulate that reported by (SAGNER *et al.* 1968); (ROSENBERGER *et al.* 1968); (CLARK and HALL 1969) in cattle. (MOTTELIB and EL-GINDI 1974) reported the same clinical symptoms by using higher doses of the drug in buffalo calves.

Considerable attention has been focused by many investigators on the hypothermic action of tranquillizers, a sign which is not so pronounced in this study, as in other species (FOUAD, 1960; EL-AMROUSI and SOLIMAN, 1965; SOLIMAN, EL-AMROUSI and KHAMIS, 1965 a, and KHAMIS, 1968). They attributed the hypothermic effect of tranquillizers to the excessive loss of heat as a result of depression of peripheral sympathetic system which gives rise to peripheral vasodilatation.

The decreased in respiratory and pulse rates were in agreement with those obtained in cattle by (ROSENBERGER *et al.* 1968); (STRAUB 1971); (FOUAD and SHOKRY 1973); MOTTELIB and EL-GINDI 1974) in buffaloes. The decreased respiration that occurred under the action of Rompun may be regarded as an expression of its sedative and hypnotic effect on the respiratory centre, while (ROSENBERGER *et al.* 1968); (SAGNER *et al.* 1968) mentioned that the decrease in cardiac rate might be due to central suppression of the sympathetic trunk.

It was found that the ruminal motility reduced, the obtained results agreed with that noticed by Tesic and (DIMITRIJEVIC 1959); (GEORGIEW and DRUMEW 1966); (MOTTELIB and EL-GINDI 1974). On the other hand, (STOBER 1959) mentioned that ruminal movements were not affected with normal therapeutic doses although influenced by high doses of phenothiazine derivatives, while (ROSENBERGER *et al.* 1968) attributed such behaviour and tympany in cattle that may occur in tranquillized animals by Rompun, to the depressing effect of the drug on its motility.

From the above mentioned results it is concluded that a dose of 0.03 mg/kg. b. wt. of Rompun is enough for inducing suitable sedation in order to examine the animals without danger, while large dose 0.05 and 0.07 mg/kg. b.wt. is efficient for long manipulation and minor surgical interferences.

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TABLE (1)  
Does, Action and Clinical signs after injection of Rompun

Group	No. of animals	Does mg/kg. b. wt.	Action		Clinical signs
			Onset min.	Duration min.	
1	6	0.02	35.0	20	It is possible to perform clinical examination but with care.
2	6	0.03	15	85	Sluggished response to external stimuli. Salivation. Protrusion of tongue staggering on gait.
3	6	0.05	5.3	173.3	Drooping of the head neck, and eyelids. Increased salivation. No. ability to eat. Protrusion of penis. General muscular weakness. Pecumbency for long time.
4	6	0.07	4	190	More sedation. Sluggished reflexes. Rocumbent and drooling more saliva. Minor operation can be done.

TABLE (2)

Mean temperature, respiration, pulse rate and ruminal movement following administration of 0.03 mg/kg. b.wt. Rompun

Clinical manifestations				
Time	Temp.	pulse/min.	Resp./min.	Ruminal movement/ 2 min.
Before	37.8	76	24	2.8
After 15 m.	38.3	69.3	20	0.8
30 m.	38.3	65.7	23	0.5
1 h.	38.5	65.7	22	0.8
2 h.	38.9	73.3	22.3	1.3
3 h.	39.0	74.7	20	1.8
4 h.	38.4	72.7	27	1.8
24 h.	38.4	74.0	25.3	2.0

TABLE (3)

Mean temperature, respiration, pulse rate and ruminal movements following administration of 0.05 mg/kg. b. wt. of Rompun

Clinical manifestations				
Time	Temp.	pulse/min.	Resp./min.	Ruminal mov./2 min.
Before	39.2	101.7	51.3	2.7
After 15 m.	39.7	76.0	30.0	1.3
30 m.	39.8	66.0	27.3	0.3
1 h.	40.1	62.7	26.0	0.8
2 h.	40.1	71.7	41.0	1.5
3 h.	39.7	75.3	42.7	1.7
4 h.	39.5	83.7	40.7	1.7
24 h.	38.1	91.7	41.3	2.2



Fig. (1): The animal showing milk fever position.

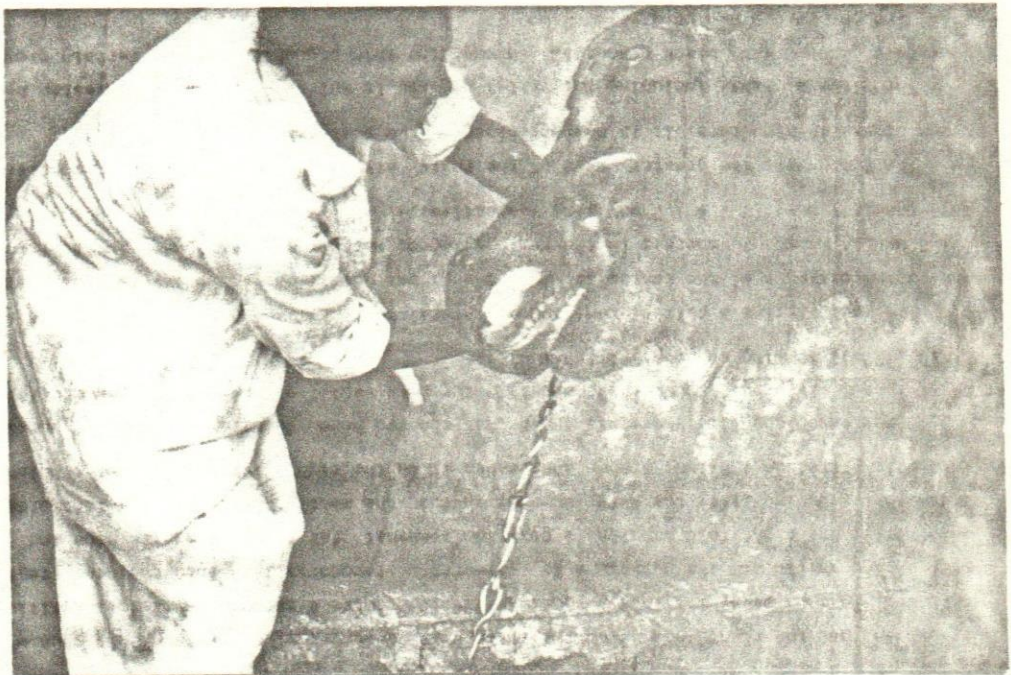
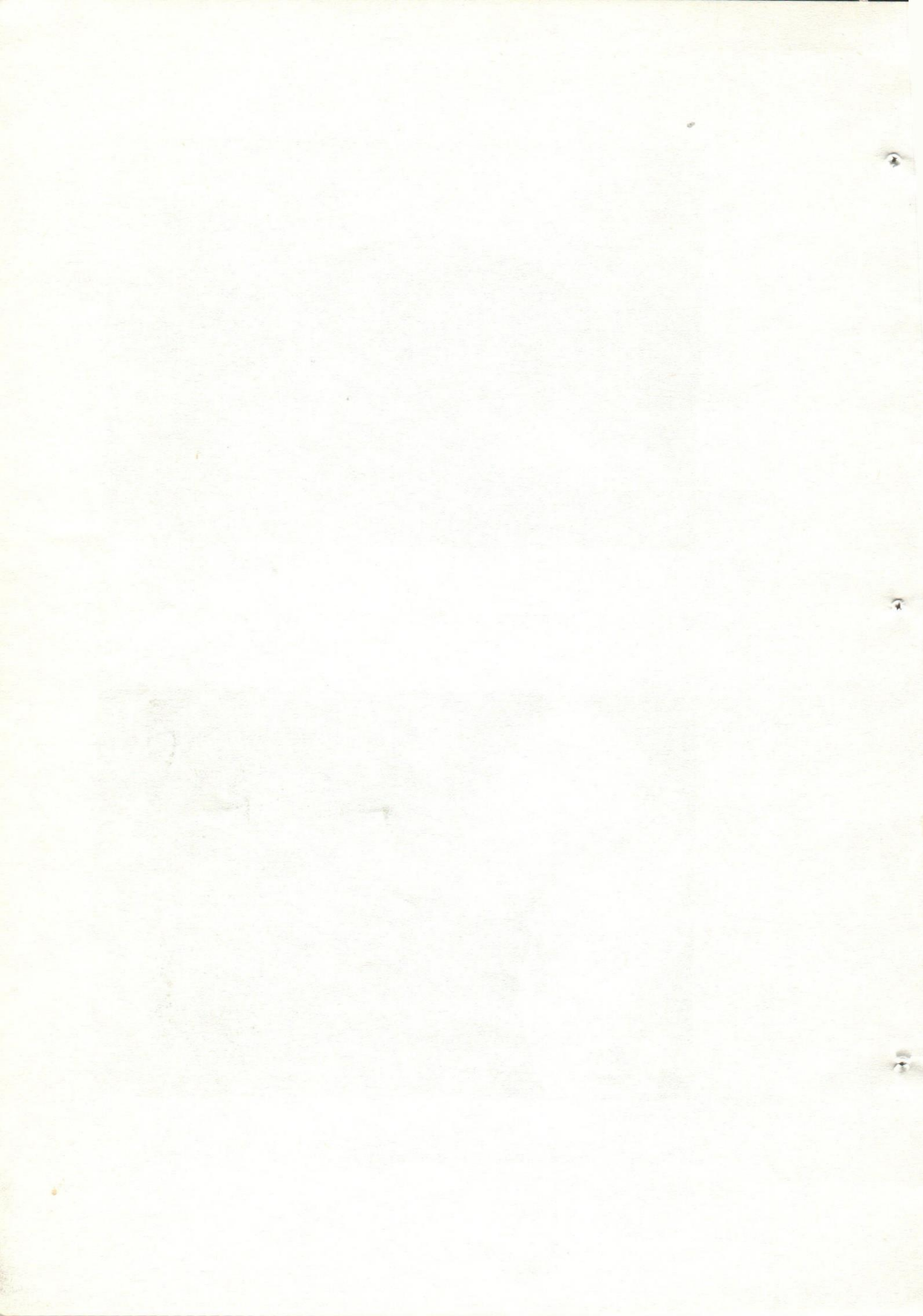


Fig. (2): Examination of the oral cavity without danger.





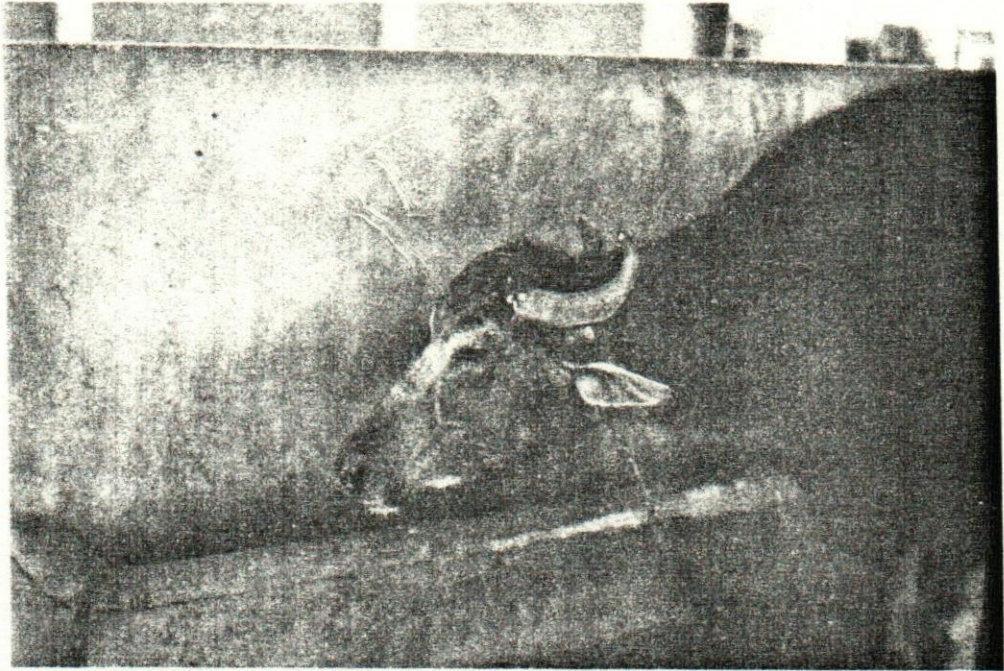


Fig. (3): Showing sedation, drooping of the head, neck, and eyelids.

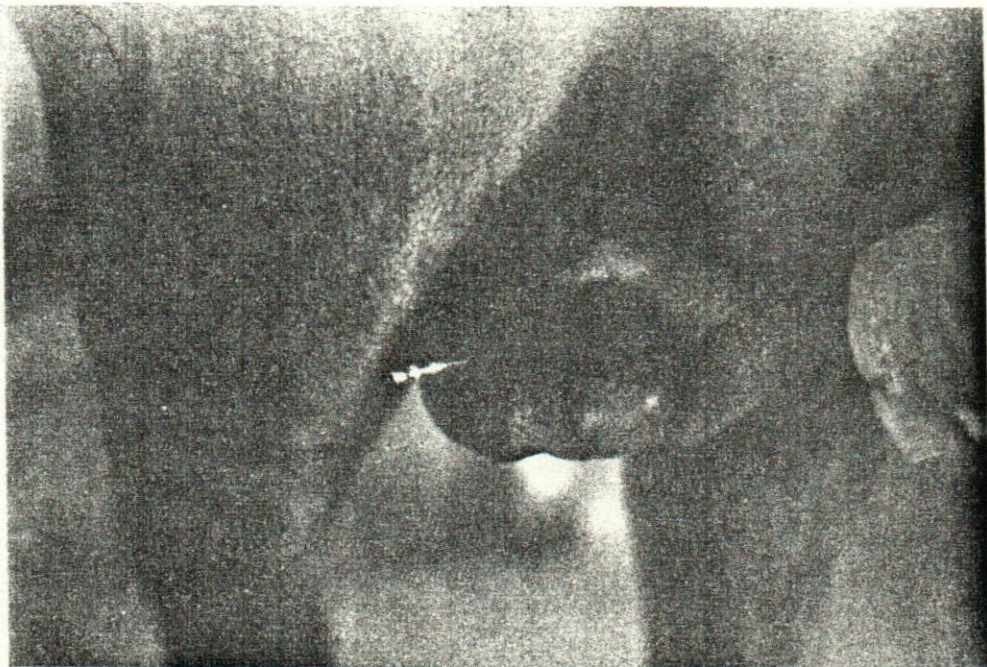


Fig. (4): Testicular biopsy.

