

# The Prevalence Of Hydatidosis By Sex, Season And Location In Slaughtered Buffaloes At The Tabriz Abattoir In 2006-2007

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## Abstract

This study was made to investigate the level of infected buffaloes with hydatid cysts at Tabriz abattoir between 2006 to 2007. Totally, 856 heads of buffalos (156 males and 702 females) were studied. In order to do so, the infected buffalos were examined by visiting and palpation. Along with that, the infected organs including lung and liver were investigated by some parallel cuttings. The amount of infection to hydatid cyst were reported to be 30%, 27%, 25.73% and 26.4% in spring, summer, fall and winter, respectively. The level and place of cysts in different organs were investigated which in left lung was about 78% and in right lung about 1.07%. According to this study, there is a significant difference ( $p < 0.05$ ) regarding the percentage of cyst presence in different organs.

## INTRODUCTION

Hydatidosis, which is one of Zoonoses and dangerous diseases, usually infects men and herbivorous mammalian. This disease is reported from different parts of the world and a number of studies were made on that because of hygienic and commercial reasons. The final host of this infection is jackals, foxes (red fox's), hyenas, wolfs and dogs. The intermediate host of this disease is mainly herbivorous animals; however, it has been seen in mammalian such as monkeys, marsupials and rodent mammals. In Eslami and Mohebbali's study (1998) of Tehran's vagrant and shepherd dogs the amount of infection was reported to be 29% and 33.3%. The amount of infection in Shiraz and Isfahan's Vagrant dogs Was 28.8% (Gorayshi, 1978) and 50.5% (Hoghoghi, 1998) respectively. Daryani (2006) reported that the amount of infection among slaughtered buffalo in Ardabil abattoir was 9.3% in males and 16.3% in females. Khalili (1982) reported that the amount of infection among buffalos at Ahvaz abattoir to be 57.76%. In an another study, saki (1994) reported that the amount of infection among males was 21.47% and among females was 25.79% at Ahvaz abattoir. Mandel and et al. (1987) in a abattoir investigation at India reported that among 476 infected buffalos there were 38.57% infections to hydatid. Islam and et al. (1982) in Bangladesh abattoir investigations

from 3752 heads of buffalos reported that there were 45.2% infections to Hydatid cyst. According to the study of Munir anwar and et al. (1982) in a abattoir investigation at Feisal Abad, Pakistan, from 1379 heads of mature buffalos and 201 heads of calf there were 49% and 5% infection to cysts, respectively.

## MATERIALS AND METHODS

In this study, 854 heads of buffalos (152 males and 702 females) at Tabriz abattoir in 2006-2007 were investigated. All of the information including age, date of slaughter, the number of slaughtered animals, sex, season of slaughtering and the place of husbandry was collected from a ready made form. The method was as follows: First, seeing the infected organ and palpation and making some parallel cuttings, we examined the infected organs. This was done mainly on lungs and livers. In buffalo, infection in spleen had been reported (saki, 2000). After recognizing the infection; the number of infected cysts were counted and recorded.

## RESULTS

In Table 1, the frequency, sex of slaughtered buffalo and infected organs were shown. From 854 slaughtered buffaloes, there were 152 males and 702 females. According to the obtained information, there were 220 heads of cyst infection including 34 males (23.36%) and 186 females

(26.49%).The numbers of infected livers were generally 141 from which 17 cases (11.18%) were related to male livers and 124 cases (17.66%) were related to female livers. The number of infected livers coupled with infected lungs were 75 from there were 11 cases (7.23%) in males and 64 cases (9.11%) in females.The Table 2 shows the frequency of Hydatid cysts seen in different organs. From 220 heads of infected buffalos, 663 cysts were removed, 101 from males and 562 from females. The number of removed cysts which were seen in livers, lungs, kidneys were 158(33.83%), 466 (70.28%) and 17 (2.56%), respectively. Table 5 shows the frequency of hydatid cysts in buffalos in which maximum number of infection were in spring (30%) and the minimum number of infection were in winter (24.51%).

**Figure 1**

Table 1: The prevalence of cyst infection in slaughtered buffalos of Tabriz slaughtered house in terms of sex

sex	Slaughtered Animals	Infected Animals		Infected liver		Infected lung		Infected (liver and lung)		Infected kidney		Infected heart	
		number	Percentage	number	Percentage	number	Percentage	number	Percentage	number	Percentage	number	Percentage
male	152	34	22.36	17	11.18	13	8.55	11	7.23	3	1.97	1	0.65
female	782	186	23.79	124	15.86	48	6.13	64	8.19	7	0.89	4	0.51
Total	934	220	23.55	141	15.11	61	6.54	75	8.03	10	1.07	5	0.53

**Figure 2**

Table 2: Frequency of Hydatid cyst different organs of studied buffaloes

sex	The number of infected animal	The number of cysts	cyst in kidney		cyst in lung		cyst in kidney		cyst in heart	
			number	Percentage	number	Percentage	number	Percentage	number	Percentage
Male	54	101	16	15.84	42	41.58	2	1.98	1	0.99
Female	196	562	142	25.26	464	70.28	15	2.66	4	0.71
Total	250	663	158	23.83	466	70.28	17	2.56	5	0.75

**Figure 3**

Table 3: comparing the percentage of cysts in livers, lungs, kidneys and hearts in male and female buffaloes of fast Azerbaijan

organs	Male	Female
Liver	15.84	25.26
Lung	61.8	71.88
Kidney	1.98	2.66
Heart	0.99	0.53

**Figure 4**

Table 4: Comparing percentage and the kinds of cyst in four different organs in Buffaloes (males and female) in East Azerbaijan

Compared organ	Lung, liver	Kidney, liver	Heart, liver	Lung, kidney	Lung, heart	Heart, kidney
percentage and the kind of cyst	70.84 ± 91.23	2.56 ± 23.83	0.65 ± 20.83	70.28 ± 2.56	70.28 ± 0.65	0.65 ± 2.56

**Figure 5**

Table 5: The prevalence of cyst infection in slaughtered buffaloes of Tabriz abattoir in terms of season

Season	Slaughtered Animals	Infected Animals		Infected liver		Infected lung		Infected (liver and lung)		Infected kidney		Infected heart	
		number	Percentage	number	Percentage	number	Percentage	number	Percentage	number	Percentage	number	Percentage
Spring	178	51	28.65	21	11.80	11	6.18	18	10.17	1	0.56	-	-
Summer	183	27	14.75	9	4.92	7	3.82	8	4.37	-	-	1	0.55
Fall	272	78	28.68	22	8.09	31	11.40	20	7.35	1	0.37	1	0.37
Winter	318	76	24.06	31	9.75	20	6.30	17	5.35	2	0.63	2	0.63

**Figure 6**

Table 6: frequency distribution of cysts in different parts of lungs

Kind of Animal	Number of Animals	The number of cyst in organ		Total	Percentage of cyst in organ	
		Left lung	Right lung		Left lung	Right lung
buffalo	136	44	92	483	0.78	1.07

**DISCUSSION**

In this study on 854 heads of buffaloes at Tabriz abattoir it was recognized that the amount of infection in slaughtered buffaloes were about 25.84% which was less than that of the studies of Islam (1982) in Bangladesh, Prasad (1969) in Pakistan, Mandel and et al. (1987) in India. However, it was more than the number cyst infections in Kazakhstan in Petrov and et al. (1983) study which was and Daryani and et al. (2007) study in Ardabil which was. In the first studies, it was recognized that the most infected organs were related to livers which were about 141(16.51%). The reason for to be settle hydatid cyst in this organ can be related to factors such as physiological and Anatomical characteristics of organ, host and strain of parasite. Furthermore, the numbers of cysts in right part of the lungs were more than that of the left part which was the same as sake's study (1976) at Ahvaz abattoir with the exception of the amount of parasite Replacement in liver. In addition, the highest amount of infection was in spring (30%) which resulted from slaughtering of buffaloes in spring from Sarab, East Azerbaijan. The next reason could be freely pasturing of buffaloes in spring. The results of this study were parallel to those of Daryani and et al.(2006) at Ahvaz abattoir. In Daryani and et al. (2006) study the amount of infection were (16.9%) and (7.3%) in spring and winter, respectively. As it can be seen in Table 3, there is a significant difference

between males and females ( $P < 0.05$ ) terms of the percentage of presence of cysts in different organs (liver, lung, kidney and heart).

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