

## Age and Size-wise Distribution of Echinococcosis in Buffaloes Slaughtered at the Larkana Abattoir

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**Abstract:** To record the prevalence rate of echinococcosis a post mortem examination of 500 buffaloes were conducted at the Larkana abattoir. The visceral organs examined were liver, lungs, spleen, heart and kidneys. The highest percentage of infection was recorded in 11 years and older buffaloes i.e. 62.66% and the lowest in under 02-year old age group i.e. 5%. The severity of infection was assessed by the size of the cysts. Out of 122 infected livers 37 (30.3%) had small sized cysts 74 (60.6%) had medium and 11 (9.0%) had large sized cysts. Out of 77 infected lungs 30 (38.9%) had small, 40 (51.91%) had medium and 7 (9.0%) had large sized cysts. The heart, spleen and kidneys remained clear of all the examined animals

**Key words:** Echinococcosis, Post Mortem, Abattoir.

### Introduction

In Pakistan water buffalo (*Babulus bubalis*) is raised for three products i.e. meat, milks and hides. Pakistan possesses 21.3 million buffaloes which is 13.3% of world buffalo population (FAO, 2000). "Echinococcosis and Hydatidosis" are terms often used interchangeably to describe the zoonotic infection caused by a very small cestode parasite *Echinococcus granulosus*. In recent years many aspects of echinococcosis has been studied in detail in Pakistan and other geographical regions of the world like (Bhutto, 1994), (Bilqees, 1984) (Khan *et al*, 1990), (Munir *et al*, 1982), (Islam, 1982), (El-Mossalmi *et al*, 1986), (Verma and Malviya, 1988), (Abraham and Pallai, 1980), (Gusbi *et al*, 1990), (Hafeez *et al*, 1986), (Bekele *et al*, 1988), (Arene, 1985) and many others. In other study (Mirani *et al*, 2000) recorded hydatidosis in 24.4% buffaloes. However details regarding the age of the animals and size wise distribution in different visceral organs were not supplied. The highest rate of infection was found in the vicinity of abattoir where infected organs were thrown and fed to the dogs.

### Materials and Methods

The present study was conducted at the abattoir of Larkana to record the prevalence rate of echinococcosis in buffaloes. Post mortem examinations of 500 buffaloes of different age and of either sex were conducted. The viscera such as liver, lungs, spleen, heart and kidneys of the slaughtered animals were collected and visually examined for the presence of cysts. The infected organs as well as the size (in centimeters) and consistency of the cyst were recorded. The size of the cyst was measured with the help of centimeter tape and vernier caliper.

### Results and Discussion

A total of 500 buffaloes of different ages were examined

for the presence of echinococcal cysts; 122 were found to be infected i.e. 24.4%. The prevalence of the infection was related to the age of the buffaloes. The distribution was as follow: of 20 buffaloes up to the age of two years, 01 buffalo had cysts (5%), of 76 aged from 2-5 years 4 (5.26%), of 166 aged from 5-8 years 15 (9.03%), of 163 aged 8-11 years 55 (33.74%), and of 75 buffaloes aged 11 years and older 47 (62.66%) were infected with cysts Table 1. The severity of the infection was assessed by the size of the cysts in the affected organs. Of the 122 (24.4%) infected livers 37(30.3%) had small sized cysts, 74(60.6%) showed medium sized cysts, and 11(9%) had large sized cysts. Of the 77 (15.4%) infected lungs 30(38.9%) were infected with small, 40(51.9%) with medium sized and 7(9%) with large sized cysts. While the spleen, heart and kidneys of all the slaughtered animals remained clear Table 2.

Table 1: Distribution of Cysts in Buffaloes (Broken Down by the Animal's Age)

Age in years	Examined Animals	Infected Animals	Infection %
0-2	20	1	5.00
2-5	76	4	5.26
5-8	166	15	9.03
8-11	163	55	33.74
11 and older	75	47	62.66
Total	500	122	24.40

Among the parasitic diseases echinococcosis is one of the most important problem, which adversely effect the health of animals as well as its productivity. It has been observed that the old buffaloes suffered more from the disease than the younger ones. In the present study higher rate of infection i.e. 62.66% was recorded in 11 years and older animals and the lowest rate i.e. 5% in 0-2 years old animals. Ansari and Rai (1991) recorded the infection rate of 85.77% in older animals.

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**Table2: Distribution of the Small, Medium and Large-Sized cysts in the Visceral Organs of Buffaloes n=500**

Size(In CMS)	Organs Infected					
		Liver	Lungs	Spleen	Heart	Kidneys
Small	No.	37.0	30.0	00	00	00
	%	30.3	38.9	00	00	00
Medium	No.	74.0	40.0	00	00	00
	%	60.6	51.9	00	00	00
Large	No.	11.0	07.0	00	00	00
	%	9.0	09.0	00	00	00
Total	122	77	00	00	00	00
	(24.4%)	(15.4%)				
Liver (Range)		Lungs (Range)				
Small size	0.5-5 CMS	0.5-5 CMS				
Medium size	6.0-10 CMS	6.0-10 CMS				
Large size	11- 15 CMS	11-14 CMS				

Verma and Malviya (1988) reported higher rate of infection in 7-9 years old buffaloes and lowest in 1-3 year old. Bhutto (1994) recorded highest rate of infection 17.85% in 10 years old buffaloes and lowest 1.19% in 4-year-old animals. Our results lie with in the same range as reported by the above workers. Out of 122 infected livers 30.3% carried small sized cysts, 60.6% had medium sized and 9% had large sized cysts. In case of 77 infected lungs 38.9% had small, 51.9% had medium and 9% had large sized cysts. Islam (1982) reported small sized cysts in 67% livers, medium sized in 22.1% and large sized cysts in 11.0%. Further he reported that 70.2% lungs had small sized cysts, 22.0% had medium, and 7.8% had large sized cysts. Our findings are in general agreement with the above worker as there was great prevalence of mild infection. In present study the spleen, heart and kidneys were clear of echinococcosis in all the examined animals. Siddiqui and Hussain (1980) they recorded an infection rate of 39.78% in contrast to those report these findings in spleen and 14.28% in kidneys. Khan et al, (1990) observed 0.9% kidneys infected with hydatid cysts. Bhutto (1994) recorded 1.0% infection rate in spleen, 1.0% in heart and 0.4% in kidneys.

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