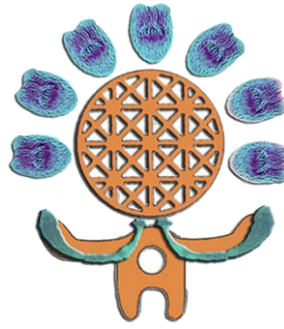


# 8<sup>TH</sup> NATIONAL AND 1<sup>ST</sup> INTERNATIONAL CONGRESS OF HYDATIDOLOGY 13 - 15 April 2017 ÇORUM, TURKEY



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## Rostellar Hook Morphology of Larval *Echinococcus granulosus* from Human, Sheep and Cattle\*

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Cystic echinococcosis (CE) caused by *E. granulosus* is one of the most important zoonotic diseases seen that common in our country and all over the world. In addition to inducing various clinical manifestations according to the tissue and organ into which it is place in humans, it is adversely affects the quality of life and gives serious damage to the economy of the country.

Variations in *Echinococcus* species play a crucial role in parasite life cycle, host specificity, pathogenicity, chemotherapeutic agents, and transmission dynamics. In this respect, the identification of dominant strain or strains in a region is important in terms of the control and eradication of parasites, the development and production of vaccines, the diagnostic methods for parasites and the effectiveness of the drugs. In *Echinococcus* species, the strain discrimination is done by examining several parameters together such as strain separation, geographical distribution, host frequency, metabolism, growth rate, reproductive biology, infectivity, morphology, protein, enzyme and DNA analysis. In recent years, although there are many researches on the molecular genetics, studies of morphology have received little attention.

The purpose of this study is to examine the hook morphology of protoskoles obtained from human, sheep and cattle CE samples, to compare them with each other and to reveal the differences.

This study was carried out on a total of 30 cyst samples that 10 of them are made up of remaining cysts sent to the Pathology Laboratory from patients who were diagnosed with CE Yuzuncu Yil University, and animal CE samples (10 sheep and 10 cattle) were obtained from slaughterhouse. Cyst fluid was centrifuged for 5 minutes at 1500 rpm and protocolex were collected from the bottom. Ten cyst of each host (totally 30 cyst) were examined. For every cyst long edge, short edge, width and length of 200 large and 200 small hook's were measured by preparing a lam-lamella preparation.

At the end of the study, distant numbers were obtained. The average length of large hooks were calculated 21,725  $\mu$ m, 24,140  $\mu$ m, and 25,158  $\mu$ m of human, sheep and cattle samples, respectively. And average length of short hooks were 9,238  $\mu$ m, 11,012  $\mu$ m, and 12,568  $\mu$ m (Table 1).

In conclusion, it is suggested that morphological features of both large and small rostellar hooks of *Echinococcus granulosus* may be represent morphological adaptation within the vertebrate host. So, morphological parameters will be useful for future studies.

Table 1. Rostellar hook measurements of human, sheep, and cattle isolates

	Large Hooks (Average $\mu$ m)				Short Hooks (Average $\mu$ m)			
	Lenght	Long edge	Short edge	Width	Lenght	Long edge	Short edge	Width
Human	21,725	13,236	9,238	7,229	17,169	9,086	8,823	5,529
Sheep	24,140	13,862	11,012	7,817	20,833	9,413	12,831	7,417
Cattle	25,158	13,345	12,568	8,528	21,242	9,457	12,540	6,488

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