

## عنوان مقاله:

First Phylogenetic Perspective on Molecular Epidemiology of *Echinococcus granulosus sensu lato* in Dogs in Sistan and Baluchestan Province, Southeastern Border of Iran

## محل انتشار:

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## خلاصه مقاله:

**Background:** Echinococcosis or Hydatid disease is a zoonotic disease that is caused by *Echinococcus granulosus*. The disease is a high public health concern in Iran, but there is little known about the genetic diversity and epidemiology of *Echinococcus* spp. in Iranian shepherd dogs. **Materials and Methods:** Fifty shepherd dogs were investigated for the adult worm of *E. granulosus* from May ۲۰۲۰ to April ۲۰۲۱ in Sistan and Baluchestan Province, the southeastern border of Iran. DNA extraction of samples and amplifying was done, and sequence analysis of mitochondrial genes (Cox1 and Nad1) was performed. **Results:** Out of ۵۰ shepherd dogs, ۱۱ cases (۲۲%) were infected with *E. granulosus*. No significant difference was observed regarding demographic factors ( $P > ۰.۰۵$ ). The phylogenetic analyses of Cox1 and Nad1 sequences demonstrated G1 genotype (sheep strains) in all isolates. Based on sequence analyses, a low (Cox1, Hd [haplotype diversity]: ۰.۲۰۰; Hn [number of haplotypes]: ۲) to moderate (Nad1, Hd: ۰.۵۳۳; Hn: ۴) genetic (haplotype) diversity of *E. granulosus* G1 genotype and low nucleotide diversity ( $\pi$ : ۰.۰۰۰۵۲-۰.۰۰۲۴۳) were observed. **Conclusion:** The first identification of a sheep strain (G1) in the final host in Sistan and Baluchestan Province indicates that potential intermediate hosts play a secondary role in preserving the biology of the dog-sheep cycle. The present study's findings enrich our knowledge about the prevalence of *E. granulosus*, the classification of strains, and the genetic diversity of the parasite in Iranian herding dogs. This information helps develop strategies and programs for monitoring and controlling infection in stray dogs in the region

## کلمات کلیدی:

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