

# Cystic echinococcosis, a neglected disease to be better investigated in a rural area of Romania

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## Objectives

The data regarding cystic echinococcosis (CE) in our country are not entirely relevant to the real incidence and prevalence for this disease. The main objectives are: to evaluate the real epidemiological data, to disseminate correct prevention and control information, to contribute to the creation of the national registry and a European registry for CE. Our aim is to identify by ultrasound screening the population affected by CE in endemic rural areas of CEE countries, to create CEE national registries for surveillance of CE, to collaborate with the other partners in establishing of a representative bio-bank of genetic *E. granulosus* isolates, and to validate new molecular-based POC-LOC kits for immunological surveillance, diagnosis and follow-up. The identification of the factors associated with CE response to therapy it is an important goal, too.

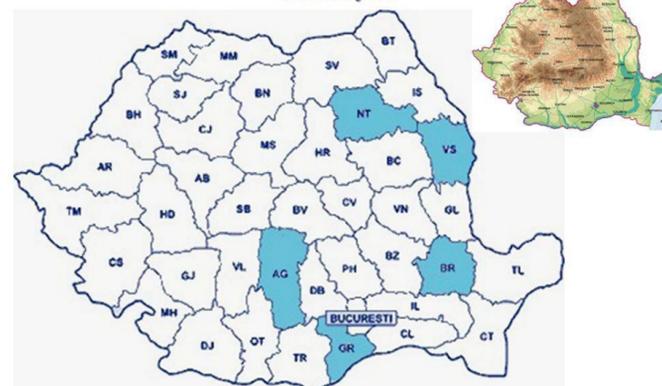


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## Methods

The HERACLES Project (Human cystic Echinococcosis ReseArch in Central and Eastern Societies) is one of the most important project implemented in the parasitology domain. It includes partners from Italy, Bulgaria, Romania, Spain and Turkey. The project leader is Istituto Superiore di Sanita, Rome, Italy. The Romanian partner used all the protocols established and approved in HERACLES Project. As HERACLES partner we are involved in the dissemination of appropriate information regarding CE prevention and control, ultrasound screening of population from rural areas of our country, recording of suspect cases, monitoring their evolution, creating the national registry of CE cases and participating in the implementation of the European registry for CE. Out of Romania 42 districts we have chosen Vaslui district based on epidemiological data and previous experience in CE management. In Vaslui district 7 villages were chosen for clinical, epidemiological, imagistic and laboratory screening. Some of the team field activities could be observed in the figures 1 and 2.

Districts areas of Romania screened for Echinococcosis in 2014 and 2015  
7469 subjects



## Results

In one week time period, in 2015, we discussed and applied questionnaires, collected informed consents from 1,362 villagers (969 females) living in Copaceana, Falciu, Moara Domneasca, Pogonesti, Stanilesti, Tacuta and Valeni. We present in comparison the place of our field mission (Vaslui) with the other districts in which we performed similar activities during 2014 and 2015. (Figure 3) In the figure 4 we can observe the distribution of patients according to the age and gender in all our recent field activities (total number of patients = 127, out of which 21 were recorded in Vaslui district).

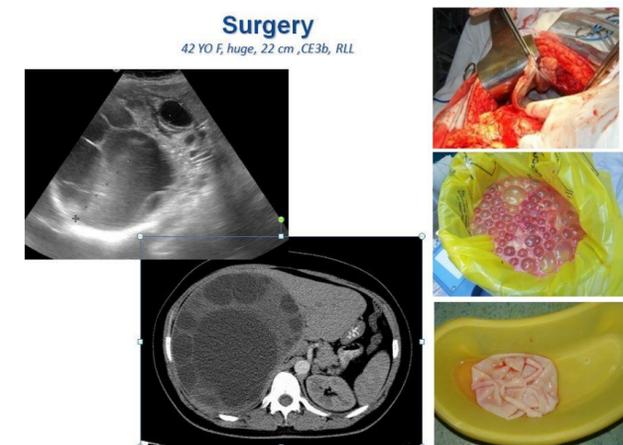
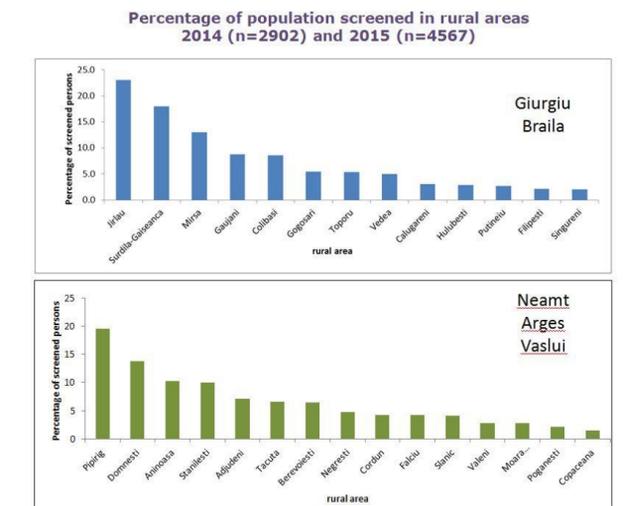
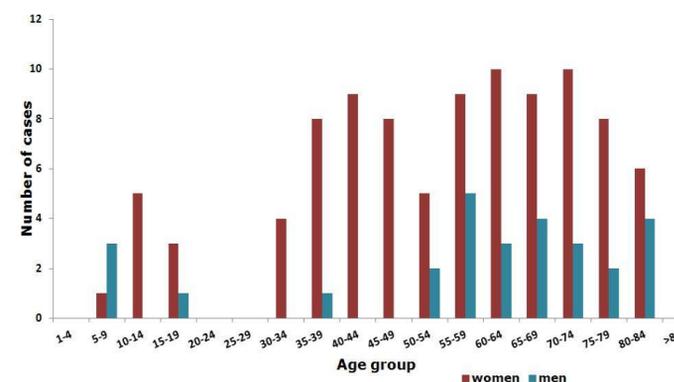
We examined the villagers using 4 ultrasound equipment and collected blood from 21 suspected CE patients (5 males and 15 females), and 49 controls.

In the figure 5 we show the percentage of population screened in all rural areas in 2014, (n=2,902) and in 2015 (n=4,567).

Most of the cysts were localized in the liver. Having in mind the WHO classification we registered more CE1 and CE4 cysts and less CE2, and CE3 (several patients had more than one cyst). Most of the cysts had less than 4 cm. In figure 6 we illustrate one of the cases in which the surgical intervention was needed.

All suspected CE patients were invited to our clinic in order to perform more tests, establish the positive diagnosis, treatment and follow-up.

Distribution of patients according to the age and gender, 2014-2015, n=127



## Conclusion

An active search by ultrasound screening is needed, in order to quantify the real burden of this disease. Searching for CE we can discover more medical conditions and help the people from rural areas without access to the medical system. The preventive medicine activities such as training and dissemination are very important to raise awareness on this neglected parasitic disease. Performing these activities we can contribute to the creation of the national and the European registry for CE.

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