

The Duration of Stay in the Infectious Diseases Ward of Patients with Brucella's Infection

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Abstract

Brucellosis is a disease that is part of zoonoses group, with a high impact in the morbidity of the population and economic affairs. It is a constant concern not only for the public health but also for structures of the veterinary service, because of the economic losses and the danger in people health. Not only in our country but over the worldwide, zoonotic diseases and their impact on human and animal health, the economy of countries, trade and tourism are rising. Treating continuously under the thematic of brucellosis will contribute to the further measures to control and prevent the disease in the district of Gjirokastra population and reducing morbidity in this population.

Materials to evaluate the characteristics of hospitalization of the affected population by brucellosis were taken from the files stored in the Statistics Sector of Gjirokastra Regional Hospital. There were analyzed the confirmed cases with brucellosis and hospitalized in the Infectious Diseases ward of the Regional Hospital "O.Nishani" Gjirokastra, during the last 3 years.

2013	Hospitalized	Duration of stay in hospital	2014	Hospitalized	Duration of stay in hospital	2015	Hospitalized	Duration of stay in hospital
Males	60	609	Males	76	565	Males	70	402
Females	27	235	Females	25	219	Females	37	205
TOTALS	87	844	TOTALS	101	784	TOTALS	107	607

The results showed that males, because of their profession, were more affected by brucellosis compared to females. Although the number of patients hospitalized has been increased, their duration of stay in the hospital there was a significant decreasing trend. This is explained by the strict use of modern treatment protocols.

Definitely it can be said that in the district of Gjirokastra brucellosis is an occupational disease that has a high impact on the population. The use of antimicrobial therapy combined, doxycycline 100mg twice daily and rifampicin 600 mg once daily has given positive effects that are reflected in shortening the duration of stay in hospital patients.

KEYWORDS: Brucellosis, hospitalization, duration of stay, antibiotics therapy, treatment protocol.

INTRODUCTION

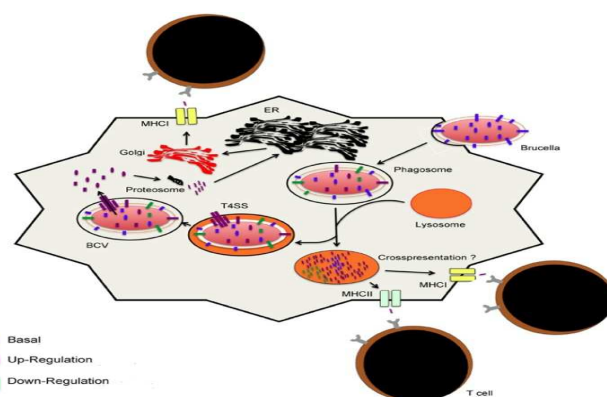
Human brucellosis is a zoonosis (infectious disease of sheep, goats, cattle and pigs), which also spread to people through the unprocessed meat, raw milk and their derivatives. It affects all age groups and both genders. Brucellosis is an occupational disease, affects mostly people who work with infected animals or their products, but

consumers can also become infected by consuming animal products like unprocessed meat or raw milk.

As all over the world, also in Albania, brucellosis has been and it is present even with an increased incidence after 1990 due to major changes in social-economic, animal industry expansion, increasing urbanization, the liberalization of people and animals movement between different geographic regions, stimulating free trade between countries and the decline in standards of surveillance / prevention measures and the deficiency of control programs.

According to annual reports from Verinary Institute and Public Health Institute the situation human brucelar infection continued an upward trend continued until 2003-2005, and the period after this, brucellosis has had a significant decline because of the application of preventive measures such as vaccination campaign was cattle "Two points on the eyes".

Brucella species are small microorganisms (Coccobacils), facultative intracellular, gram-negative. They are immobile and do not form spores, also they have neither flagella. They increase in aerobic conditions, but some species require carbon dioxide for their survival. They can withstand the conditions of high humidity, low temperatures and sunlight. Brucella are always catalase-positive.



Brucellosis is also considered as an occupational disease, as it affects farmers, animal breeders, abattoir workers, veterinarians, also health workers in diagnostic laboratories when does not follow the measures to control infection. Most of the cases are attributed to direct contact with animals. They represent seasonality and most are diagnosed in the period from May to June.

Human brucellosis caused mainly by *Brucella melitensis*, less often by *Brucella abortus*. *B. Melitensis* has the most aggressive clinical performances and acute then *B. abortus* which shows a more moderate clinical and rarely causes complications.

The first way of human contamination is the direct contact with animals or their products through damaged the skin, via the oral mucosa or the eye's conjunctiva as well as through inhalation of contaminated aerosols. Another way is through indirect contact by consuming meat by-products or raw milk.

Meat products are not often the source of infection because people rarely consumed uncooked meat and the number of *Brucella's* microorganisms in animal muscle tissue is low.

The main source for human infection is raw milk and its derivatives.

The transmission from human to human is not common, however, there are reported rare cases of transmission from mothers to babies through breastfeeding. The transmission of brucellosis in the laboratory can happen especially in regions with endemic morbidity. Brucellas are quite resistant in the external environment and can survive in milk, cheese or other derivatives for different time periods, up to approximately 11 weeks after production. They may even survive for long periods in soil (up to 2 years), especially on wet grounds.

These microorganisms are found in animals excretion including urine, faeces and products of conception (of the contaminated animal placenta). Brucella.

Symptoms of brucellosis are nonspecific and generally appear with fever, sweating, headache, anorexia, physical weakness, back pain, etc. The start of disease can be acute or insidious. Generally it begins within 2-4 weeks after infection. The ondulante temperature observed if the patient is not treated at the right time or in the sufficient time interval. A characteristic of the disease is the profuse sweating with odor and color as wet straw.

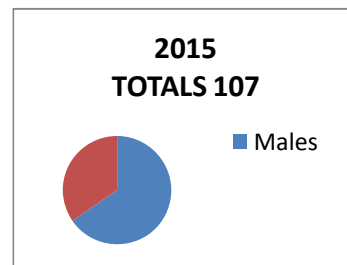
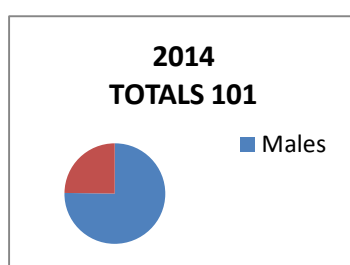
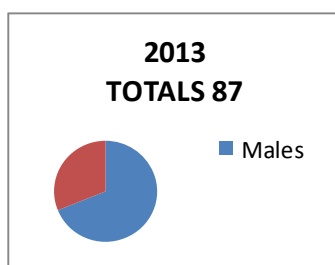
MATERIALS AND METHODS

The data of this paper are taken from statistical registers for patients with Brucellosis hospitalized in the Infectious Disease ward of the Regional Hospital "O. Nishani" Gjirokastra. Laboratory diagnosis is set in the microbiological laboratory near the Hygiene and Epidemiology Department of Gjirokastra, using quick agglutination test on glass (Rose Bengal), followed by the tube agglutination test (Wright reaction)

The false-positive results from Rose-Bengal test are not rare so this test is followed by Wright's reaction to the positive cases result from it.

RESULTS AND DISCUSSIONS

2013	Hospitalized	Duration of stay in hospital	2014	Hospitalized	Duration of stay in hospital	2015	Hospitalized	Duration of stay in hospital
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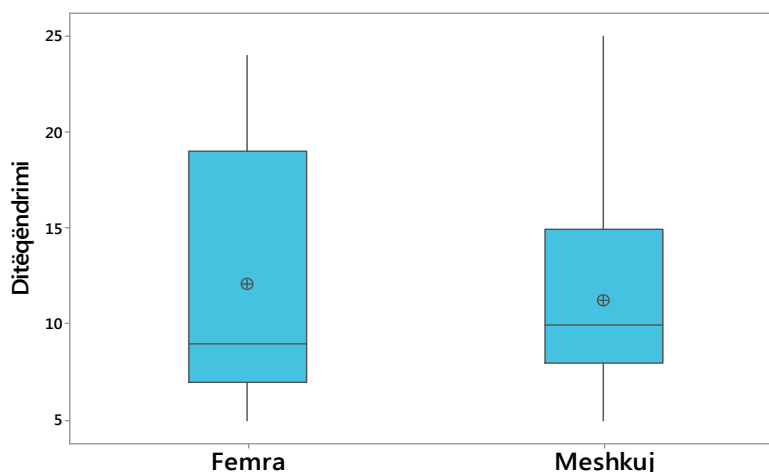
The results of this paper indicate that Brucellosis in Gjirokastra is a high-impact disease in those people who are in direct contact with animals & their products because of their profession.

The hospital cards of hospitalized patients showed that the characteristic of Brucellosis was the manifestation of family law cases in the rural areas of collective food consumption.

Observations of hospitalized patients have shown that the average time of patients presenting to the hospital was 7.2 ± 3.1 days from the onset of signs. The shortest time is within the day while the largest is 26 days after the onset of signs. The median is 7 days.

It was noticed a rising trend of hospitalizations during the study period, but with lower duration of stay in hospital. This is explained by the fact that during this period at the Infectious Diseases Ward of “Omer Nishani” Hospital served a Specialist Physician of Infectious Diseases, not as before where served a General Physician. The presence of specialist:

- has increased the hospitalizations while the number of people infected by Brucellosis has decreased during this period
- has reduced the duration of stay in hospital
- has reduced the complications of the disease thanks the use of modern treatment protocols



The Boxplot of hospitalization duration, according to the gender of patients

It noted that the average time of hospitalisation for women was 12.2 ± 5.2 days, while for men it was 12.4 ± 5.4 , with no statistically significant difference between them.

RECOMANDATIONS

In the fight against this infectious disease is necessary the presence of a Infectious Disease Specialist Physician in the Infectious Diseases Ward and not a General Physician because the data showed that treatment by a specialized Physician decreases significantly the complications and the recurrence of Brucellosis.

Specialized treatment is necessary because its presence reduces health costs of treating complications and recurrences.

An early diagnosis and treatment will affect to reduce the morbidity and frequency of complications.

The use of antimicrobial therapy combined (according to modern treatment protocols), doxycycline 100mg twice daily and rifampicin 600 mg once a day, has shown positive effects which are reflected in the shortening of the hospitalization duration for the patients.

However Brucellosis will not disappear from people without disappeared out of animals.

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