Oral, Intestinal and Vaginal Candidiasis, Pathogenesis and Clinical Presentation in Elbasan (Albania)

ABSTRACT
Candida albicans is a fungus present in most of the people around the world, as well as in Albania. The study of this fungus becomes really important according to the growing problems with multiple infections in several parts of the body, particularly in the intestine, vagina, mouth, with a great impact on public health, on which this paper will be focused.

Our study includes the period from January to December, 2012. The study was conducted in three stages: Taking samples from sick individuals, analysis of laboratory data and their processing. During this period, 2079 cases were analyzed, 1056 of which resulted positive with Candida. It is observed that most of the infected cases are those with intestine Candida, a total of 769 cases, or converted in 72.82%.

Then, in the second place, are those cases with oral Candida, a total of 278 positive cases or converted to 26.33%, and, in third place, those cases with vaginal candida, only 9 cases positive, or converted to 0.85%.

The study is also based in the dynamic spread according to age group, which resulted that the most affected age group was 0-15 years and also that one over 46 years, respectively 58% and 25% of positive cases.

Regarding to the dynamic spread based on sex, women are more affected with Candida 52% against 48% of men. In some cases is performed mycogram.

INTRODUCTION
Candida is a member of the fungi kingdom (mold.). The gender of Candida includes more than 350 species, where Candida albicans is the most prevalent. (2, 4). This muddy is like a white cream with a horrible scent, which grows in hot places, dark places and humid ones. Fungal infections affect more than 1 billion people every year. (1) The mould lives in 80% of the population without causing any problem. In the cases with an impact on health, Candida causes symptoms such as fatigue, irritability, anxiety, respiratory problems etc. It affects all ages from newborn babies up to the third age. As we mentioned earlier, the study is focused on three cases where human being is affected more by intestine candidiasis, as well as mouth and vagina candidiazis. (3, 6, 10, 13).

The main question is why in our days, candida growth in the intestine is a major problem? We can say that the way of nutrition is one of the factors with a great impact. Foods in our days are less rich in minerals, vegetarians have lower levels of zinc, people consume more sugar and wheat, especially children. (5, 7, 11, 12). An increasing number of cases with candidiasis have also come from the great influence of the use of multiple antibiotics in an inappropriate way. (2, 8, 9). In Albania, as well as in the district of Elbasan, it happens that patients use antibiotics without medical prescription, as well as pharmacists sell and trade them without a prescription. Often, they also provide alternative options without considering neither antibiograms nor their sensitivity or medical prescription. Also, studies have shown that infection passes from one partner to another through sexual relationships.

MATERIAL AND METHODS
The study of candidas in Elbasan district is made during a period of 1 year, from January-December 2012, at the Hygiene Institute. During 2012 samples were taken from 2079 different individuals of which 1056 cases resulted positive. The sample collection from the patient is done in the same way for all types of cultures (faeces, throat, vagina). We take material from a patient’s mouth (throat, tongue, phlegm), material from faeces or vagina throughout different tampons and then they are planted in Petri dishes with Saburo ground.

Petri dishes are placed in thermostat for incubation at 37 ° C for 48 hours. (4). Later we are capable of reading the colonies. The mould appears in the dish as a white color. If the result is positive then we are capable to distinguish, poz+, poz ++ or poz + + + . Thus, in those cases when the mold occupies 10-15% of the dish, we say that we resulted in Candida positively +, if the mold occupies up to 55% of the dish we can say that we have Candida poz + +. Meanwhile in those cases over 55% we evaluate it as Candida poz + + +, which is the most seriously infected and definitely needs treatment.

It is imperative that in the resulting positive cases with Candida we perform mycogram. But, in the district of Elbasan, the mycogram is performed rarely because of the lack of funds. Mykogram is usually realized with saturated discs with antimiotics.

RESULTS AND DISCUSSIONS
There are registered 2079 suspected individuals for Candida albicans from January 2012 to December 2012. After the analysis, only 1056 cases out of 2079, have resulted positive with Candida. The data are grouped according to the origin of samples as from: mouth, vagina, faeces.

Figure 1 introduces us to the number of positive cases with Candida during year 2012, for the three types of cultures taken from the mouth, vagina and faeces. Thus, from 1056 cases positive with Candida, 769 of them are with Candida in the gut/intestine as well as in many other countries of the world. Also most cases, referring to the gender, were observed among women with 52% of positive cases with candida.

Also, referring to the group-age, candidiasis is more common among children from 0-15 years old as well as in the adults over 45 years old, respectively 58% and 25%. From the results obtained during the study, most cases were recorded in January, April and October respectively 109, 110 and 123 cases.
In those cases where mycogram is already performed, result ed that Candida is sensitive to Nystatina and is resistant to Amphotericin, Clotrimazole, Griseofluvinë and Terbinafine.

Table 1. The influence of antimycotics against Candida albicans

| Antimycotic     | Candida sensitivity to antimycotics |
|-----------------|------------------------------------|
| Amphotericin    | Resistant                          |
| Fluconazol      | average sensitive                  |
| Clotrimazol     | Resistant                          |
| Ketokonazol     | average sensitive                  |
| Mikonazol       | average sensitive                  |
| Nystatin        | Sensitive                          |
| Griseofluvinë   | Resistant                          |
| Econazol        | average sensitive                  |
| Terbinafin      | Resistant                          |
CONCLUSIONS
The study conducted in Elbasan district during 2012 concluded that:

• The population in this district is more affected by Candida in the intestine, as a result of an excessive usage of antibiotics used by people.
• Lack of vitamins usage or nystatin as accompanying elements for antibiotics.
• The way of feeding where we notice lack of minerals.
• Also, most of the cases with Candida in the intestine affect children because they usually use food with a great amount of glucose as sweets, buy milk or even fruit juice.

Therefore:
• The antibiotics usage must be done only when it is necessary and absolutely under doctor’s recommendation
• It is recommended the use of more fruits and vegetables for children and adults rather than sugar content foods, because these group ages have a less consolidated immune system.

REFERENCE
1. Akpan, A; Morgan, R (2002 Aug). “Oral candidiasis”. Postgraduate Medical Journal 78 (922): 455–9. | 2. Calderone, R. A., and R. L. Cihlar (ed.). (2002). Fungal pathogenesis: principles and clinical applications. Marcel Dekker, Inc., New York, N.Y. | 3. Crandall M. (2004). The pathogenetic significance of intestinal Candida colonization. Int J Hyg Environ Health 207; 79-81. | 4. Errol Reiss, H. Jean Shadomy, G. Marshall Lyon. (2011). “Chapter 11”. Fundamental medical mycology. Hoboken, N.J.: John Wiley & Sons. ISBN 978-1-118-10176-6. | 5. Eaton KK. (2002). Is there an allergic and fermentative gut condition, and does it relate to Candida? In: Brostoff J, Challacombe S (eds): Food Allergy and Intolerance. London: Saunders;:351-36 | 6. Georgiou, G.J. (2008). Scourge of the 21st Century: Systemic Candidiasis – (Part 1). British Naturopathic Journal, Vol. 25, No. 1. | 7. K. Fugelsang, C. Edwards. (2010). Wine Microbiology Second Edition, pp. 3–28 Springer Science and Business Media . New York ISBN 0387333495 | 8. Lalla, RV; Patton, LL; Dongari-Bagtzoglou, A (2013 Apr). “Oral candidiasis: pathogenesis, clinical presentation, diagnosis and treatment strategies.” Journal of the California Dental Association 41 (4): 263–8. | 9. Manolakaki, D., Velmahos, G., Kourkoumpets, T., Chang, Y., Alam, H. B., De Moya, M. M., & Mylonakis, E. (2010). Candida infection and colonization among trauma patients. Virulence, 1(5), 367-375. | 10. Srikumar Chakravarthi, Nagaraja HS. (2010). “A comprehensive review of the occurrence and management of systemic candidiasis as an opportunistic infection”. Microbiology Journal 1 (2): 1–5. ISSN 2153-0694 | 11. Weig M, Werner E, Frosh M, Kasper H. (1999). Limited effect of refined carbohydrate dietary supplementation on colonization of the gastrointestinal tract of healthy subjects by Candida albicans. Am J Clin Nutr; 69 :1170-1173 | 12. “What Is A Candida Diet?” (2013). Probiotic Cleansing Diet. Retrieved 4 June 2013. | 13. Williams, D; Lewis, M (2011). “Pathogenesis and treatment of oral candidosis.” Journal of oral microbiology 3. PMC 3087208