

COMPLICATIONS AND EPIDEMIOLOGICAL ASPECTS OF VARICELLA – A 9 YEARS RETROSPECTIVE STUDY

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Objectives:

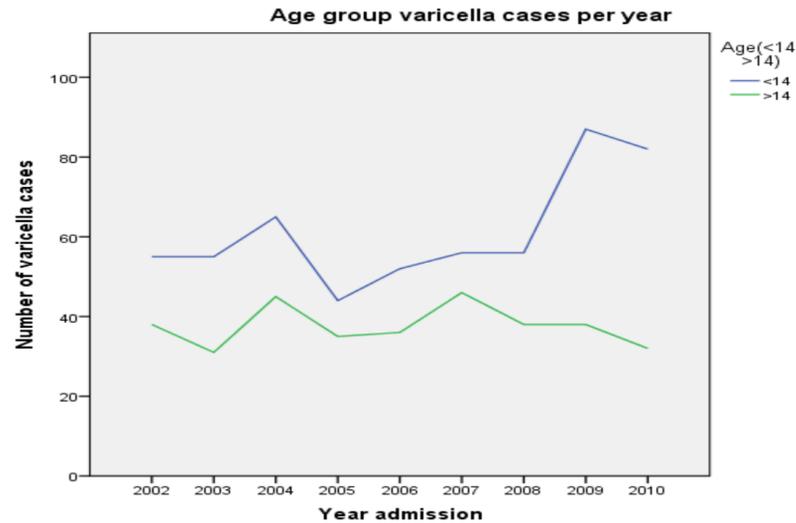
While in the European Union the incidence of hospitalization due to varicella is decreasing, in Romania, in the absence of a nation-wide varicella immunization programme, an increase in the incidence rate of varicella was reported in the last 2 decades. Our objectives were to describe the epidemiological characteristics of varicella-related hospitalizations and complications recorded in Romania from 2002 to 2010.

Methods:

A retrospective study of the medical records of patients hospitalized for varicella between 2002 and 2010 in a tertiary facility (Victor Babes Clinical Hospital of Infectious and Tropical Diseases, Bucharest) was conducted using the system of Australian - Diagnosis Related Groups (AR-DRG). The hospital covers half of the capital city (Bucharest) and six south eastern counties in Romania (Braila, Calarasi, Dambovita, Galati, Giurgiu, Teleorman, Ilfov) – a total of 2 950 165 inhabitants (15% of Romanian population).

Results:

The annual incidence of hospitalization for varicella was 3.02 per 100 000 population. Out of a total of 891 patients, 79.7% (709/891) were from urban areas, out of which 94.5% (670/709) came from the capital city, Bucharest. The median age of admitted patients with varicella was 7 years (range between 1 month and 69 years). Subjects younger than 14 years were more frequently hospitalized, the highest number being registered during 2009-2010, while a steady decrease in the number of cases in the age group > 14 years was recorded after 2007.

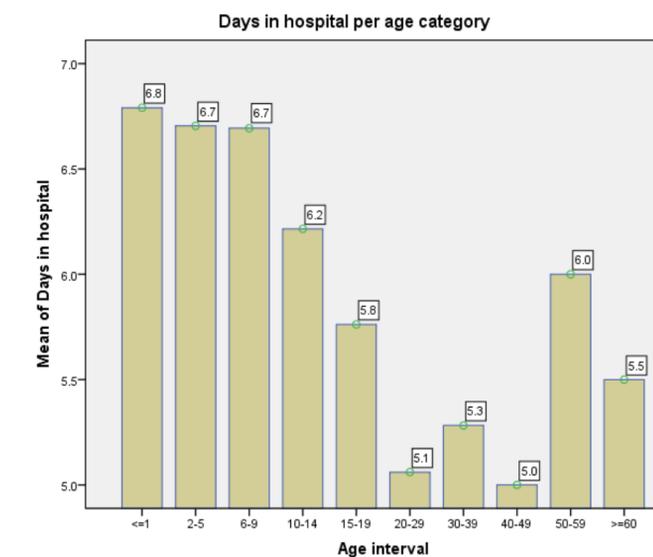
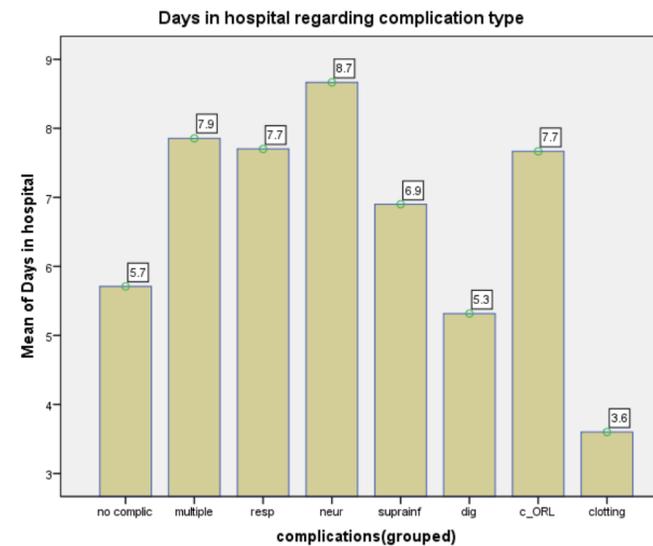


	Varicella without complication n=605	Varicella with complication n=286	p
Total N= 891			
Mean Age (95%CI)	13.82 (12.86-14.79)	9.36 (8.00-10.73)	<0.001 ^a
Gender			<0.001 ^b
male	284(62.8%)	168(37.2%)	
female	321(73.1%)	118(26.9%)	
Days in hospital	5.70(5.43-5.98)	7.09(6.62-7.57)	
Location			0.603
Urban	478(67.4)	231(32.6)	
Rural	125(69.4)	55(30.6)	
Years of admission			<0.001 ^b
2002-2006	352(77.2)	104(22.8)	
2007-2010	253(58.2)	182(41.8)	
Season			0.421
Winter(dec-may)	341(69.0)	153(31.0)	
Summer(jun-nov)	264(66.5)	133(33.5)	

^a t-test;
^b contingency table chi-square tests, (p<0.05 was considered significant)

The highest hospitalization rates were recorded in the group age 0-1 (211 cases; 23.68%) and 2-5 years (188 cases; 21.10%). Overall, 32.1% of the patients (286/891) experienced one or more complications, the most common being respiratory tract infections (13,7%), followed by digestive symptoms (11,1%), skin and soft tissue infections (7,2%) and neurological manifestations (3,5%).

Multiple complications were recorded in 7% of the affected individuals. In an univariate analysis, varicella complications occurred with significantly higher frequency in younger patients (9.3 vs 13.8 years, p=0.001), in males (37.2% vs 26.9% in females, p=0.001) and in those diagnosed between 2007-2010 (41,8% vs 22.8%, p=0.001). After performing a multinomial logistic analysis, younger age and year of diagnosis after 2007 remained independent predictors of varicella related complications.



Risk Factors	OR	95% CI	p
Age	0.973	0.961- 0.986	<0.001
Gender (male)	1.417	1.049-1.914	0.023
Years of admission	0.413	0.306-0.558	<0.001

Complications	Age interval		Risk ratio (95% CI)	p
	<14	>14		
Respiratory	74(18%)	13(4.6%)	3.92(2.22-6.92)	<0.001*
Neurological	18(5.1%)	3(1.1%)	4.61 (1.37-15.5)	0.006*
Skin and soft tissue	26(7.2%)	14(4.9%)	1.45(0.77-2.73)	0.242
Digestive	44(11.5%)	16(5.6%)	2.06(1.19-3.58)	0.008*
ENT	6(1.7%)	0(0%)	-	0.029*
Ocular	1(0.3%)	0(0%)	-	0.371
Others	0(0%)	1(0.4%)	-	0.264
Multiple	44(11.5%)	19(6.6%)	1.75(1.05-2.94)	0.029*

Conclusions:

The urban area of Bucharest remain the most important reservoir of the cases. Respiratory and neurological complications are the most severe, significantly influencing the length of hospital stay. Varicella, although considered a mild disease of childhood, can be a potentially severe infection and an important cause of hospitalization especially in children under age 14, a fact that sustain the opportunity of universal vaccination.

