Cuadro II

**PREVALENCIA DE HIPERTENSIÓN ARTERIAL (HTA)
EN PERÚ SEGÚN CRITERIOS DEL JNC-7 (2003) Y DE LA AHA (2017),
POR GRUPOS DE EDAD**

Edad (años)	JNC-7 (2003)		AHA (2017)	
	%	IC95%	%	IC95%
20-44	9.4	8.7-10.0	29.3	28.3-30.3
45-54	27.0	25.1-28.9	50.4	48.2-56.3
55-64	37.9	35.3-40.4	57.9	55.3-60.4
65-74	51.5	48.3-54.8	68.7	65.9-71.5
75 o más	63.7	59.6-67.8	76.1	72.5-79.7

JNC-7: *Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure*
AHA: *American Heart Association*

En conclusión, la prevalencia de HTA en Perú se incrementará de 22.1 a 42.0% al adoptar los criterios de AHA.

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Referencias

1. Lim SS, Vos T, Flaxman AD, Danaei G, Shibuya K, Adair-Rohani H, *et al*. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet. 2012;380:2224-60. https://doi.org/10.1016/S0140-6736(12)61766-8
2. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL, *et al*. Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. Hypertension. 2003;42(6):1206-52. https://doi.orga/10.1161/01.HYP.0000107251.49515.c2
3. Whelton PK, Carey RM, Aronow WS, Casey DE, Collins KJ, Dennison-Himmelfarb C, *et al*. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults. Hypertension. 2017;71(6):1269-324. https://doi.org/10.1161/HYP.0000000000000065
4. Instituto Nacional de Estadística e Informática. Encuesta Demográfica y de Salud Familiar 2016 [internet]. Lima: INEI, 2017 [citado 2017 dic 7]. Disponible en: http://www.inei.gob.pe/

Mortality and functional disability in heat stroke

Dear editor: The present is a prospective and observational study from the patients admitted to Mexicali's General Hospital with confirmed diagnosis of heat stroke between June 2011 and September 2014. The purpose of this article is to show the mortality of this condition and demonstrate in a simple way the degree of disability in the survivors.

Heat stroke is a condition that occurs in individuals exposed to high ambient temperatures, who develop hyperthermia greater than 40°C, and severe dehydration with altered mental status.[1]

We included 29 cases with heat stroke diagnosis, showing a lethality of 44.8% of the patients admitted. Patients with a high grade of functional impairment were classified with the Glasgow outcome score (GOS) to assess the grade of functionality at their discharge.[2] We compared our findings with previous essays in Saudi Arabia, where mortality up to 50% have been reported. Both results are similar.[1] A previous trial executed in our hospital reported a mortality up to 37%.[3] In that study, there was a higher number of study subjects that fulfilled heat stroke criteria: 78 patients compared with 29 in this trial. The number of cases has been decreasing, probably because of the actions implemented by the government. Between 2006 and 2010, the range was 0.8 to 5.2 cases per every 100 000 people, whereas in this study there were 5.2 to 1.2 cases per every 100 000 people. However, heat stroke continues in spite of the existence of effective preventive measures.

It is important to underline that all variables were associated in a significant way. Patients with a Glasgow coma scale below eight points and previous history of drug abuse increased their risk of organic dysfunction. These two factors had a strong negative correlation with the GOS. This correlation could be used for future investigation.

Up to 17% of the patients who were discharged had a kind of disability and required support to perform basic functional daily life duties, such as eat, work or going to school. Heat stroke is an illness with high lethality, and disability in those who survive. Only 37.9% had a favorable recovery at their hospital discharge (figure 1).

Pathologies associated to ambient conditions will become more frequent due to their association with

Glasgow outcome scale
(GOS)
Total of 29 patients (100%)

Death
GOS 1)

Vegetative state
or disability
(GOS 2-4)

Good recovery
(GOS 5)

13 patients
(44.8%)

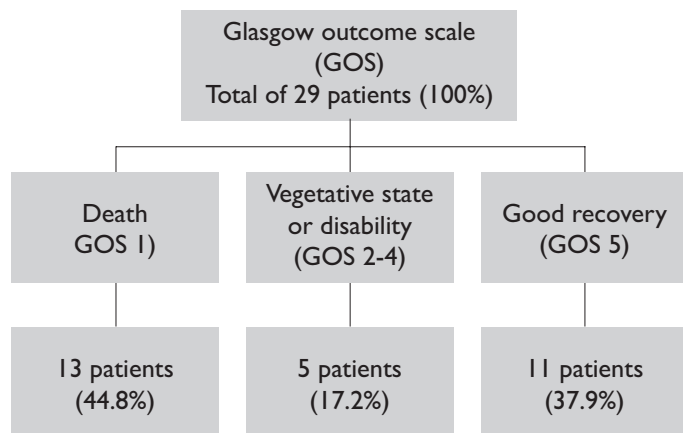5 patients
(17.2%)

11 patients
(37.9%)

FIGURE 1. TOTAL OF PATIENTS FROM THE ADMITTED WITH THE CONFIRMED DIAGNOSIS OF HEAT STROKE, CLASSIFIED WITH THE GLASGOW OUTCOME SCALE (1=DEATH, 2=PERSISTENT VEGETATIVE STATE, 3=SERIOUS DISABILITY, 4=MODERATE DISABILITY AND 5=GOOD RECOVERY). HOSPITAL GENERAL DE MEXICALI, MEXICALI, BAJA CALIFORNIA, MÉXICO, 2011-2014.

global warming. Geographic zones that are not considered warm will be exposed to higher temperatures. There will be a higher risk of developing heat stroke in population that is not acclimated to these conditions, with also higher possibilities for a fatal outcome or disability sequels.

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References

1. Bouchama A, Knochel JP. Heat Stroke. N Engl J Med. 2002;346:1978-88.
https://doi.org/10.1056/NEJMra011089
2.- Jennett B, Bond M. Assessment of outcome after severe brain damage. Lancet. 1975;1:480-4. https://doi.org/10.1016/S0140-6736(75)92830-5
3. Jaramillo H. Golpe de calor: un problema de salud pública en Mexicali. Salud Publica Mex. 2011;53(4):285-6. https://doi.org/10.1590/S0036-36342011000400001

Prevalence of osteopenia, osteoporosis and their risk factors in the Niterói Family Doctor Program

Dear editor: Osteoporosis is a condition prevalent among elderly, predominantly in women, with morbid consequences pointing to the importance of its prevention.

Several factors well-known contribute to loss of bone mineral density (BMD). Interestingly, urine calcium excretion predicts bone loss in idiopathic hypercalciuria. BMD loss and hypercalciuria are associated with dietary calcium intake and body weight, indicating that some innate characteristics of the skeletal tissue, kidney, and intestine may affect the clinical course of bone loss in hypercalciuric patients, operating as a metabolic disorder.[1] The excessive sodium intake might also accelerate bone reabsorption.[2]

This study is part of the Digitalis Study, a cross-sectional investigation with a random sample of a registered population in the Niteroi Family Doctor Program, State of Rio de Janeiro, Brazil. The objective was to test the association of osteopenia or osteoporosis with hypercalciuria and excessive sodium intake.

All the participants (220 women and 146 men, 45 to 99 years old) undergo the DXA exam biochemical serum and urine analysis.

The prevalence rate was 44.1% for osteopenia and 8% of osteoporosis. These numbers are lower than the ones reported for Latin American countries, where prevalence rates for osteopenia ranged from 46 to 57.2% and for osteoporosis from 7.9 to 22%.[3] Besides the genetic profile and environmental factors, this divergence could be accounted for by low protein and calcium intake during bone formation, conditions that have already been associated with a higher risk of osteoporosis development.[4]

Patients with hypercalciuria often excrete more calcium than they absorb, reflecting a net loss of total body calcium.[5] In the present study, an excessive urinary calcium excretion was associated with osteoporosis in women, but not to osteopenia. In the multiple logistical regression analysis, the effect of an excessive urinary calcium excretion on osteoporosis, independent of the gender or BMI, was substantial (OR= 3.26 and $p<0.05$).

Previous studies have also suggested that the intake of nutrients such as sodium is related to calcium excretion and to BMD.[2] The association of sodium intake with osteoporosis was not statistically significant in our study.

Our results also confirm the importance of traditional risk factors (gender, age, BMI and skin color) and highlight the role of a high calcium urinary excretion as an independent factor associated with osteoporosis.