

Are there mortality differences between men and women in all types of intracranial hemorrhages: subarachnoid, intraparenchymal and subdural? An analysis of the Spanish population

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Funding Acknowledgement: Type of funding source: None

Objectives: There are 3 types of intracranial hemorrhage (ICH): 1) subarachnoid hemorrhage (SAH), CIE10:I60; 2) intraparenchymal hemorrhage (IPH), I61 and 3) subdural hemorrhage (SDH) I62. Epidemiological data on this field are scarce in Mediterranean countries. Our goal was to determine whether the relationship of ICH mortality with gender and age was different for the 3 types of ICH.

Methods: Data were retrospectively obtained from the Spanish National Institute of Statistics. Deaths/100.000 population of SAH, IPH and SDH were assessed for the entire Spanish population since 2008 to 2017 (n=46,527,039). Year 2017 was the last available for analysis. Incidence was analyzed for men and women and for age strata (<1 years of age, 2–10, 11–20, 21–30, 31–40, 41–50, 51–60, 61–70, 71–80; >80).

Results: In order to fit in the abstract space, only data of 2017 are presented, although years 2008 to 2017 were also analyzed and results were similar. Mortality/100,000 of IPH stayed very low under 40 years of age and then grew exponentially in both, men and women, and was significantly higher for men for all age strata. Mortality of SDH was much lower but behaved in a similar way: exponential growth since 40s and lower incidence in women. SAH behaved differently: it started to be significant since 20 years of age and there were no gender differences.

Conclusion: Mortality of intraparenchymal and subdural hemorrhage increases exponentially since 40 years of age and is lower in women. On the contrary, mortality of subarachnoid hemorrhage increases earlier and there are no gender differences.

Age	Deaths/100,000 intracranial hemorrhage								
	IPH (deaths/100,000)			SAH			SDH		
	global	men	women	global	men	women	global	men	women
<1	0.24	0.47	0.00	0.00	0.00	0.00	0.24	0.00	0.50
5	0.02	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.10
15	0.04	0.08	0.00	0.02	0.00	0.04	0.02	0.04	0.00
25	0.13	0.08	0.17	0.13	0.08	0.17	0.00	0.00	0.00
35	0.45	0.57	0.33	0.43	0.38	0.48	0.04	0.09	0.00
45	1.53	2.10	0.95	1.36	1.08	1.66	0.23	0.26	0.21
55	5.21	7.37	3.09	2.65	1.90	3.39	0.46	0.76	0.18
65	12.36	17.14	7.93	3.51	3.28	3.73	1.38	2.16	0.65
75	40.00	51.95	30.12	5.79	5.66	5.90	5.93	7.82	4.38
>80	117.40	139.03	104.74	15.70	15.47	15.84	29.66	41.69	22.63

IPH: intraparenchymal hemorrhage; SAH: subarachnoid hemorrhage; SDH: subdural hemorrhage.

