Sarcouncil Journal of Medical Series

ISSN(Online): 2945-3550

Volume- 01| Issue- 01| 2022

Case Report **Received:** 10-03-2022 | **Accepted:** 19-03-2022 | **Published:** 25-03-2022

Epidemiology of Stroke at Department of Emergency in Valcamonica

***Stefano Bonetti*[1], *Maria Sofia Cotelli*[2], *Marinella Turla*[2] *and Filippo Manelli*[1]**

[1]*Department of Emergency Azienda Socio Sanitaria Locale Valcamonica (Esine, Brescia-Italy)*

[2]*Neurology Unit Azienda Socio Sanitaria Locale Valcamonica (Esine, Brescia-Italy)*

Abstract: Aim of the small study is to evaluate epidemiology of stroke in Valcamonica, a small valley in the province of Brescia, and improve patient's knowledge and correct behaviors.

Keywords: stroke, epidemiology, valcamonica.

CASE STUDY

Stroke is a common disease, with one in four people affected over their lifetime, and is the second leading cause of death and third leading cause of disability in adults worldwide It is defined as a neurological deficit attributed to an acute focal injury of the CNS (ie, brain, retina, or spinal cord) by a vascular cause. Most strokes are ischaemic due to reduced blood flow, generally resulting from arterial occlusion. A rarer type of ischaemic stroke is venous infarction due to occlusion of cerebral veins or venous sinuses. The remaining 10 40% of stroke presentations, depending on regional epidemiology, are haemorrhagic and result from the rupture of cerebral arteries. These haemorrhages can be intracerebral or subarachnoid. Transient ischaemic attack (TIAs) patients present symptom resolution within 24 h, have evidence of infarction on diffusion-weighted MRI in approximately 40% of cases and represent a group who are at high risk for recurrent stroke.

We collected all the cases of stroke from January the 1st 2014 up to December 31 th 2018 with diagnosis of "Stroke" from Department of Emergency of Esine's Hospital (Valcamonica, Brescia- Italy). Aim of the study is to monitorize epidemiology of stroke and time lapse between symptoms and in-hospitalization. Data were extracted from"Lombardia Stroke Registry" which recruits consecutive patients with acute stroke or transient ischaemic attacks (TIAs), and aims at measuring performance parameters, identifying guidelines non-compliance and analysing care processes. All the data were inserted in stroke registry by neurologists working in our hospital.

We calculated crude incidence in 2014 (fonts: Istat Valcamonica population 2014): 182/101097, while in 2018 was 237/100161 (fonts: Istat Valcamonica Population 2018); about 236 cases/100.000. We should consider that these data includes also TIAs which cover a high percentage of cases every year and consequently does not differ from that reported in other epidemiological studies. Moreover stroke incidence increases with age (table 2). Median age of onset during for both men and women is >70 years and, accordingly to other studies, men are younger than women when they got their first stroke. Ischemic stroke such as TIAs represent the most common type, followed by hemorrhagic, as reported in literature.

We think that it is important to consider time lapse between onset symptoms and evaluation at Department of Emergency. In an effort to promote early hospital arrival, several studies have been conducted to determine the factors associated with early hospital arrival, and have identified demographic, socioeconomic, clinical, and personal characteristics related to early hospital arrival. Early hospital arrival has been associated with socioeconomic status and the prehospital delivery system, and may involve factors that differ according to the characteristics of the country or hospital. We think that peculiar territory conformation of Valle Camonica, very long and strict, can contribute to delay in hospital arrival. Moreover information on stroke risk, symptoms and treatment should be provided to those likely to experience stroke, the general public and the emergency and medical communities who may witness and intervene when stroke occurs.

***Corresponding Author:** Stefano Bonetti

Table-1: number of cases/years divided by gender

YEAR	GENDER	CASES	MEAN	Q1	MEDIAN	Q3	MIN	MAX	SD
2014	M	85	75.99	72.05	79.76	83.71	35	92	11.65
2014	W	97	79.64	73.88	83.80	83.70	40	94	11.67
2014	**T**	182	77.99	73.51	80.61	85.91	35	94	11.77
2015	M	136	72.04	64.05	74.21	81.62	34	92	12.03
2015	W	133	79.22	75.62	81.08	87.64	20	98	13.04
2015	**T**	269	75.59	70.45	77.65	84.47	20	98	13.02
2016	M	97	72.25	64.46	75.77	83.32	22	100	14.12
2016	W	113	81.50	77.04	84.91	89.65	31	97	11.89
2016	**T**	210	77.23	70.74	80.24	86.81	22	100	13.74
2017	M	123	72.76	65.34	75.62	82.61	36	94	13.02
2017	W	143	78.46	71.93	81.69	88.12	40	102	13.22
2017	T	266	75.82	68.17	78.57	85.38	36	102	13.41
2018	M	102	74.51	66.27	75.58	83.64	33	95	11.54
2018	W	135	78.02	74.51	82.35	88.34	22	97	15.37
2018	T	237	76.51	69.34	79.60	86.33	22	97	13.93

Age

M=men W=women T=total

Tble-2: N°cases/range of age

Year	Age	N°cases	%
2014	<45	6	3.30
2014	46-80	73	40.11
2014	>80	103	56.59
2015	<45	10	3.72
2015	46-80	143	53.16
2015	>80	116	43.12
2016	<45	8	3.81
2016	46-80	96	45.71
2016	>80	105	50.48
2017	<45	13	4.89
2017	46-80	132	49.62
2017	>80	121	45.49
2018	<45	11	4.64
2018	46-80	111	46.84
2018	>80	115	48.52

Table-3: Time lapse between symptoms and inhospitalization

Year	Time lapse between symptoms and inhosp (hours)	N° cases	%
2014	≤2	44	24,18
	2<x≤3	7	3,85
	3<x≤4	1	0,55
	4<x≤6	8	4,40
	6<x ≤24	88	48,35
	>24	34	18,68
	Not known	0	0.00
	During sleep	12	7.14
2015	≤2	61	22,68
	2<x≤3	10	3,72
	3<x≤4	5	1,86
	4<x≤6	6	2,23
	6<x ≤24	144	53,53
	>24	43	15,99

Publisher: SARC Publisher

	Not known	0	0,00
	During sleep	13	4,83
2016	≤2	37	17,62
	2<x≤3	10	4,76
	3<x≤4	2	0,95
	4<x≤6	7	3,33
	6<x ≤24	122	58,10
	>24	32	15,24
	Not known	0	0,00
	During sleep	5	2,38
2017	≤2	56	21,05
	2<x≤3	5	1,88
	3<x≤4	4	1,50
	4<x≤6	2	0,75
	6<x ≤24	167	62,78
	>24	32	12,03
	Not known	0	0,00
	During sleep	9	3.38
2018	≤2	53	22,36
	2<x≤3	2	0,84
	3<x≤4	3	1,27
	4<x≤6	4	1,69
	6<x ≤24	161	67,93
	>24	14	5,91
	Not known	0	0,00
	During sleep	6	2.53

Table 4: Stroke classification

Year	STROKE	N°cases	%
2014	**Ischemic stroke**	107	58,79
	Hemorragic stroke	43	23.63
	ICH	29	67.44
	SAH	14	32.56
	TIA	32	17.58
2015	**Ischemic stroke**	135	50.19
	Hemorragic stroke	62	23.05
	ICH	51	82.26
	SAH	11	17.74
	TIA	72	26.77
2016	**Ischemic stroke**	114	54.29
	Hemorragic stroke	52	24.76
	ICH	43	82.69
	SAH	9	17.31
	TIA	44	20.95
2017	**Ischemic stroke**	131	49.25
	Hemorragic stroke	57	21.43
	ICH	46	80.70
	SAH	11	19.30
	TIA	78	29.32
2018	**Ischemic stroke**	97	40.93
	Hemorragic stroke	54	22.78
	ICH	45	83.33
	SAH	9	16.67

Publisher: SARC Publisher

	TIA	86	36.29

ICH=intracerebral hemorrhage
SAH=subarachnoid hemorrhage
TIA= transient ischemic attack

CONCLUSION

We think that Valcamonica needs a stroke information campaign, based on library of stroke educational information including types, treatment, prevention and recovery from stroke for patients and caregivers but also meetings in order to improve knowledge, prevention and correct behaviors in case of symptoms

REFERENCES

1. Lee, E. J., Kim, S. J., Bae, J., Lee, E. J., Kwon, O. D., Jeong, H. Y., ... & Jeong, H. B. "Impact of onset-to-door time on outcomes and factors associated with late hospital arrival in patients with acute ischemic stroke." *Plos one* 16.3 (2021): e0247829.
2. Song, D., Tanaka, E., Lee, K., Sato, S., Koga, M., Kim, Y. D., ... & Heo, J. H. "Factors associated with early hospital arrival in patients with acute ischemic stroke." *Journal of stroke* 17.2 (2015): 159-167.

Source of support: Nil; **Conflict of interest:** Nil.

Cite this article as:
Bonetti, S., Cotelli, M.S., Turla, M. and Manelli, F. "Epidemiology of Stroke at Department of Emergency in Valcamonica." *Sarcouncil Journal of Medical Series 1*.1 (2022): pp 16-19

Publisher: SARC Publisher