POOR-GRADE ANEURISMAL SUBARACHNOID HAEMORRHAGE IN THE ELDERLY ADMITTED TO ICU
A SINGLE CENTER RETROSPECTIVE STUDY

V. PIAZZA[1], L. MELETTI[1], F. GRAZIANO[2], P. V. GILARDI[3], F. MAGNI[3], M. AMIGONI[3], L. PIERGALLINI[3], M. PATASSINI[3], P. REMIDA[3], C. G. GIUSSANI[1,3], G. CITERIO[1,3]

1. Scuola di Medicina, Università degli Studi di Milano Bicocca, Monza, Italia
2. Bicocca Bioinformatics Biostatistics di Milano Bicocca, Monza, Italia. and Bioimaging Center B4, Scuola di Medicina Università degli Studi di Milano Bicocca
3. IRCCS Fondazione San Gerardo dei Tintori, Monza, Italia

Introduction

Old age was described as independent predictor of unfavourable outcome in **aneurismal subarachnoid hemorrhage (aSAH)**.
In our center, aggressive treatment of **poor-grade aSAH (WFNS>3)** is implemented in the elderly population.

Aim	To compare the characteristics of poor-grade aSAH in the **elderly (>70 years old)** with an **adult population (≤70)** and explore outcome-associated variables.

Methods	• Single-centre retrospective study. Data were extracted from digital medical records. • All consecutive aSAH subjects admitted to Neurointensive Care Unit at **San Gerardo Hospital** (Monza) between 2017 and 2021 were enrolled. • Outcomes at hospital discharge and the 6-month Extended Glasgow Outcome Scale (GOSE) were collected. • Analysis was performed by dividing poor-grade aSAH subjects according to age (≤70 vs >70 years old).

Results

PATIENTS INCLUDED

aSAH admitted
n = 221

Patients poor-grade
n = 79

≤ 70 years
n = 56 (70.9%)

> 70 years
n = 23 (29.1%)
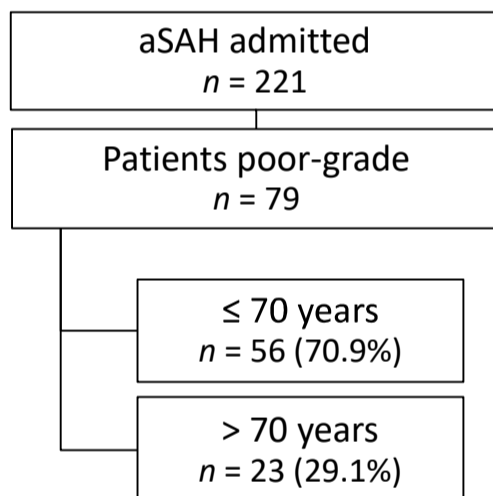
90% of subjects underwent **aneurismal treatment within 12 hours** and **99% within 24 hours** from admission.
Antiplatelet drugs therapy and hyperglycemia during the first 24 hours were significantly more frequent in **the elderly**.

Modified Fisher score, type of treatment, aSAH-related complications and outcome at hospital discharge were not significantly different.
In a multivariate model, **age >70 years, modified Fisher 4 and disaggregation** were significantly associated with **6-month mortality**. **No association with unfavourable neurological outcomes** was found.

GROUPS COMPARISON

	≤70 yrs	>70 yrs	p
n	56	23	
Age (mean (SD))	52.75 (8.90)	75.09 (4.61)	<0.001
Sex = M (%)	15 (26.8)	8 (34.8)	0.661
WFNS = 5 (%)	40 (71.4)	13 (56.5)	0.309
Diabetes mellitus = yes (%)	1 (1.8)	2 (8.7)	0.417
Arterial hypertension (%)	22 (39.3)	11 (47.8)	0.654
Smoke (%)	18 (32.1)	2 (9.5)	0.085
Disaggregation (%)	4 (7.1)	6 (26.1)	0.054
Hyperglycemia > 180 mg/dL =(%)	11 (19.6)	11 (47.8)	0.024
Arterial hypertension before treatment (%)	13 (36.1)	7 (38.9)	1.000
Aneurysmal exclusion treatment (%)	46 (82.1)	18 (78.3)	0.933
Rebleeding (%)	11 (19.6)	5 (21.7)	1.000
Posterior circle anurysm (%)	7 (12.5)	1 (4.3)	0.496
Aneurysmal clipping (%)	17 (37.0)	6 (33.3)	1.000
Decompressive craniotomy (%)	6 (13.0)	2 (11.1)	1.000
Fisher 4 (%)	29 (53.7)	18 (78.3)	0.077
Length of hospital stay in days (median [IQR])	19.00 [3.50, 28.00]	18.00 [4.00, 23.00]	0.384
GOSE <5 (%)	19 (51.4)	10 (71.4)	0.329
Vasospasm (%)	18 (39.1)	4 (22.2)	0.323
Myocardial stunning(%)	5 (10.9)	1 (5.6)	0.858
Epilepsy (%)	22 (47.8)	12 (66.7)	0.280
Ventriculoperitoneal shunt positioning (%)	10 (21.7)	3 (16.7)	0.914
Hospital discharge outcome (%)			0.351
Other hospital	0 (0.0)	1 (4.3)	
At home	14 (25.0)	4 (17.4)	
Death	21 (37.5)	12 (52.2)	
Rehab with tracheostomy	16 (28.6)	5 (21.7)	
Rehab without tracheostomy	5 (8.9)	1 (4.3)	
GOSE at 6 months (%)			0.094
1	6 (16.2)	8 (57.1)	
3	8 (21.6)	2 (14.3)	
4	5 (13.5)	0 (0.0)	
5	1 (2.7)	0 (0.0)	
6	2 (5.4)	1 (7.1)	
7	10 (27.0)	3 (21.4)	
8	5 (13.5)	0 (0.0)	
Favorable GOSE (7/8) (%)	15 (40.5)	3 (21.4)	0.344

Conclusions

• In our cohort of **poor-grade aSAH patients**, we **did not observe differences in treatment** and **aSAH-related complications** between the two age groups.

• **6-months mortality** was more frequent in those over-70.

• **Antiplatelet drugs, Fisher score and old age**, were independent predictors of 6 months mortality.

• **No predictors** were identified for **neurological outcome**.