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Racial and Gender Differences in the Management of Acute Ischemic Stroke: The North Carolina Collaborative Stroke Registry

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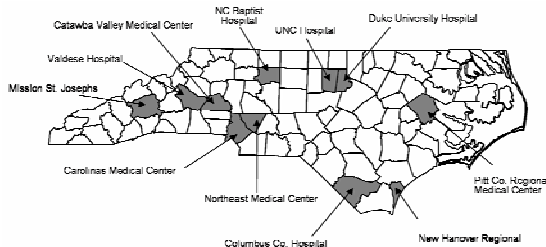
Introduction

- Initial hospital care of acute ischemic stroke patients is critical in determining early outcomes
- Current guidelines for early management of patients with ischemic stroke recommend the same treatment strategies across race and gender groups
- Anti-thrombotics and thrombolytics are equally effective among race and gender groups, however, differences in treatment have been reported in some health care settings
- Few studies have examined treatment differences in race and gender in ischemic stroke when presenting at the emergency department (ED)

Methods

- NC Collaborative Stroke Registry (NCCSR): A registry program monitoring the treatment of acute stroke in 11 participating hospitals
- NCCSR identified and enrolled 2144 acute stroke patients who presented to one of these EDs December 2002–October 2003
- Ischemic stroke defined by hospital ICD-9-CM discharge codes of: 433-434
- Enrollment in the registry required that participants be at least 18 years of age and present with signs/symptoms consistent with stroke
- Information on stroke symptoms was collected at the time of presentation at the ED; demographics, symptoms, diagnostics, treatment, and discharge data were collected by medical record abstraction

Hospitals Participating in the NC Collaborative Stroke Registry:



Results

Table 1. Characteristics (%) of Patients with Acute Ischemic Stroke Enrolled in the NC Collaborative Stroke Registry, by Race and Gender

	All N=886	White N=514	Black N=372	Male N=442	Female N=444
Age ≥65 years	59.5	68.7	46.8	53.2	65.8
Male gender	49.9	48.3	52.2	--	--
Black race	42.0	--	--	43.9	40.1
Health insurance					
Medicare	26.7	25.1	28.9	29.2	24.2
Medicaid	14.5	8.0	23.6	12.0	17.1
Other	47.6	56.7	34.9	45.3	50.0
Self-pay	11.2	10.2	12.6	13.6	8.9
Stroke type					
Ischemic	54.3	50.8	59.9	56.4	52.4
TIA	20.4	23.4	15.5	17.0	23.6

Table 2. Treatment of Patients (%) with Acute Ischemic Stroke in the NC Collaborative Stroke Registry, by Race and Age

	All N=886	Age <65		Age ≥65	
		White N=161	Black N=198	White N=353	Black N=174
Thrombolytic treatment	7.7	11.8	7.1	6.2	7.5
Thrombolytic <3 hrs*	65.9	66.7	42.9†	86.7	50.0†
Most common reasons for non-thrombolytic					
Time	20.2	24.7	17.6	21.2	16.9
CT findings	5.9	4.2	7.7	6.8	3.8
Rapid improvement	3.6	2.1†	1.1†	6.2	2.5†
Mild stroke severity	2.7	2.8†	1.7†	3.7	1.9†
Not documented	63.0	63.4	69.2	55.1	71.9
Anti-thrombotic treatment	92.4	90.5	94.6	91.0	94.5
Anti-thrombotic ≤ 24 hrs	91.1	88.0	92.6	91.5	91.6

* N=41

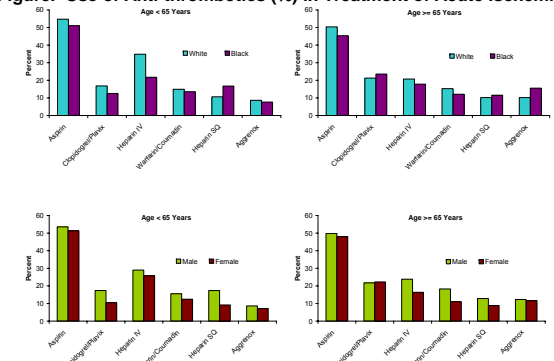
† Based on cell size ≤ 5 individuals

Results (continued)

Table 3. Treatment of Patients (%) with Acute Ischemic Stroke in the NC Collaborative Stroke Registry, by Gender and Age

	All N=886	Age <65		Age ≥65	
		Male N=207	Female N=152	Male N=235	Female N=292
Thrombolytic treatment	6.7	7.7	11.2	8.5	5.1
Thrombolytic <3 hrs*	65.9	66.7†	50.0†	80.0	60.0
Most common reasons for non-thrombolytic					
Time	20.2	21.2	20.0	20.9	19.0
CT findings	5.9	6.9	5.2	3.3	7.7
Rapid improvement	3.6	1.1†	2.2†	5.7	4.4
Mild stroke severity	2.7	1.6†	3.0†	3.8	2.6
Not documented	63.0	66.1	67.4	61.6	59.9
Anti-thrombotic treatment	92.4	93.9	91.0	95.6	89.4
Anti-thrombotics ≤ 24 hrs	91.1	90.8	90.2	93.0	90.2

Figure. Use of Anti-thrombotics (%) in Treatment of Acute Ischemic Stroke



Conclusion

In the NCCSR, modest race and gender differences in treatment with thrombolytics and antithrombotics were observed. These treatment patterns are important to identify, monitor, and correct possible sources of disparity in the treatment of ischemic stroke.