

The Palliation of Stroke

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Conflict Disclosure Information

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No Potential Conflicts of Interest

Objectives

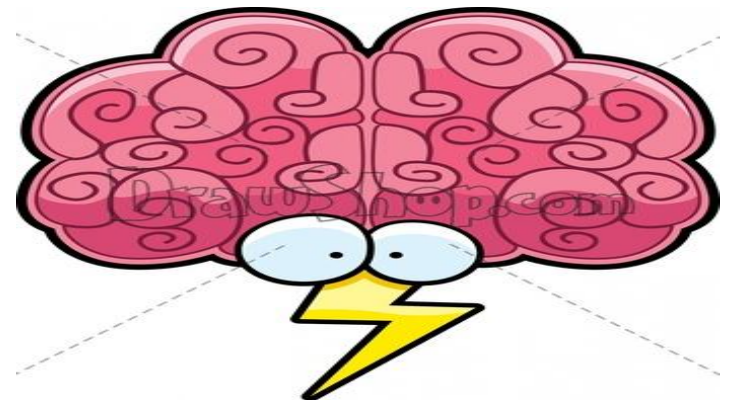
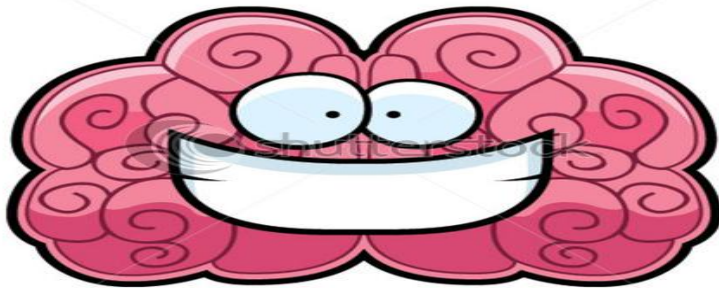
- ❑ To list strategies to deal with symptoms at end of life for stroke patients
- ❑ To gain an approach to prognostication at end of life for stroke patients
- ❑ To list conversation starters to help determine goals of care at end of life – including intubation/extubation and tube-feeding (With thanks to Dr. Mike Harlos)

Defining our Patient Population

- ❑ Acute Stroke patients (within a month)
- ❑ Late Stroke patients (over a month)

How Common Is It?

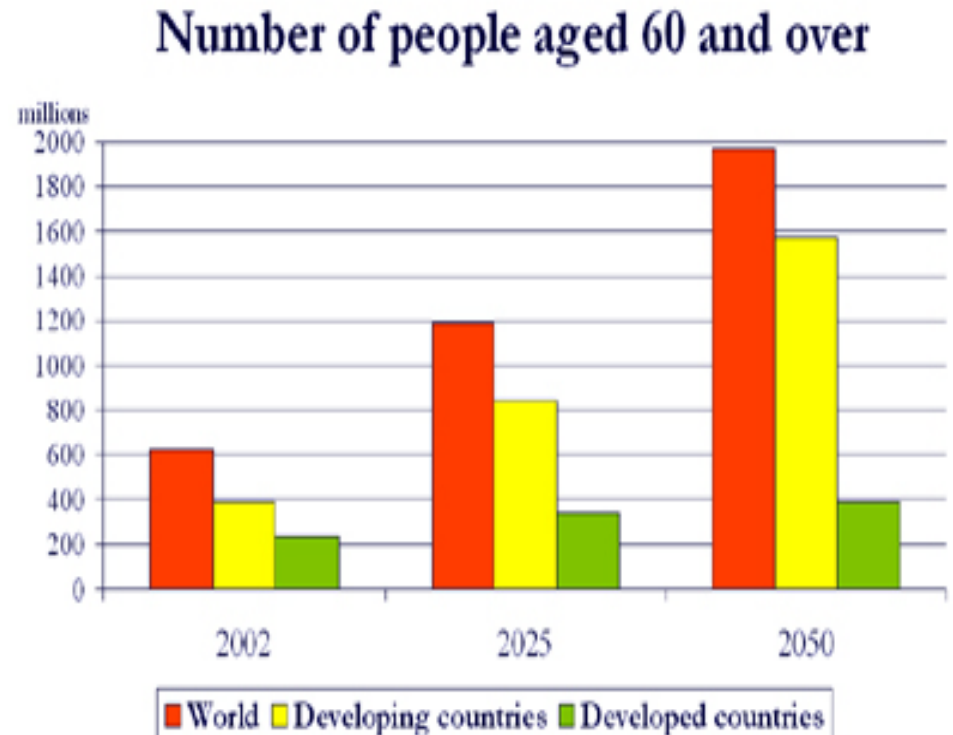
- ❑ 2nd commonest cause of death worldwide (Ingall J Insur Med. 2004)
- ❑ 3rd leading cause death in Canada (Blaqueriere, C J Neuro Sci, 2009)
- ❑ 10% of all deaths worldwide in 2002 (Johnston, Lancet Neurol, 2009)
- ❑ 5-year mortality 40- 50%
- ❑ Commonest cause of disability in Canada (Blaqueriere, C J Neuro Sci, 2009)



International Perspective

- ❑ In last four decades:
 - 42% decrease in stroke in high-income countries
 - more than 100% increase in low to middle income countries.

(Feigin, Lancet Neuro, 2009)



Source: UN, 2002

Objective1.

List strategies to deal with
symptoms at end of life



Case Study 1.

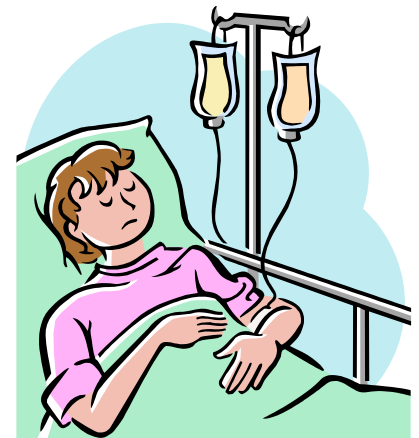
- ❑ Mr. B – 79 y.o. male with dementia
- ❑ Slumped over unconscious while eating breakfast at nursing home
- ❑ CT shows large ICH with intraventricular extension
- ❑ Pt unconscious, appears comfortable, extubated
- ❑ Family requests palliation
- ❑ What symptoms is he likely to experience??
- ❑ What meds do you prescribe??

Symptoms of Acute Life-Ending Stroke

- ❑ May be asymptomatic

Or

- ❑ Can have pain, restlessness/delirium, dyspnea, upper airway congestion



Symptom Prevalence in Dying Stroke Patients

Table 2 Symptom prevalence in the 42 patients

Symptoms	<i>n</i> (%)
Dyspnoea or dyspnoea behaviour(s)	34 (81)
Pain or pain behaviour(s)	29 (69)
Mouth dryness	26 (62)
Constipation	16 (38)
Anxiety, sadness	11 (26)
Delirium	6 (14)
Sleep disorders	5 (12)
Other symptoms	5 (12)

n, number of patients

(Mazzocato, Eur J Neuro, 2010)

Palliation For the Minimally Conscious Patient

Need Only 4 Drugs

Medication Class	Symptoms Treated	Drugs and Starting Doses
Opioid	Pain and/or Dyspnea	Morphine 2.5 – 5 mg subcut q1h prn OR Hydromorphone 0.5-1 mg subcut q1h prn
Neuroleptic	Delirium and/or Nausea	Methotrimeprazine 6.25-12.5mg subcut q4h prn OR Haldol 1-2 mg subcut q4h prn
Benzodiazepine	Delirium and/or Dyspnea	Lorazepam 0.5-1mg subling q4h prn OR Midazolam 2.5-5 mg subcut q4h prn
Anticholinergic	Upper Airway Secretions (Death Rattle)	Glycopyrrolate 0.2-0.4 mg subcut q2h prn OR Scopolamine 0.3 -0.6mg subcut q1h prn

Palliative Standing Orders for Terminal Acute Stroke

Standard orders for palliative care on the ASU,
QEII Health Sciences Centre, Halifax, Nova Scotia

- These orders may be carried out on any nursing unit.
- No Code.
- Maximum care and comfort.
- Move patient to private room.
- Family may room in with patient.
- May have food and drink by mouth ad lib for comfort.
- Activity as tolerated for comfort.
- Discontinue monitoring vital signs.
- Discontinue all bloodwork and investigations.
- Discontinue all previous medication orders.
- Cancel any outstanding consultations.
- Remove intravenous fluids.
- Remove nasogastric tube.
- Insert subcutaneous needle for morphine and scopolamine.
- Morphine 1 – 10 mg s/c q 2 to 4 hours prn.
- Morphine 1 – 5 mg s/c q 1 hour prn.
- Versed 0.5 – 1 mg s/c q 1 hours prn.
- Ativan 0.5 – 2mg s/l q 4 to 6 hours prn.
- Scopolamine 0.4 – 0.6 mg s/c q 4 to 6 hours prn.
- Tylenol suppository 650 mg pr q 4 to 6 hours prn.

Problems at End of Life for Late Stroke Patients

- ❑ Uncontrolled symptoms
 - Pain
 - Incontinence
 - Confusion (Delirium)
 - Low mood
- ❑ Lack of holistic care
- ❑ Ongoing difficulty with ADLs



Identifying End of Life in Stroke patients

- ❑ Bedridden, profoundly weak
- ❑ Drowsy, poor attention span
- ❑ Take only sips of fluid
- ❑ Unable to take tablets
- ❑ Semi-comatose



Problems

- ❑ Changes difficult to identify
- ❑ Changes may not be irrecoverable
- ❑ Suggestions:
 - Functional deterioration
 - change - not static disability
 - Worsening comorbidities
 - Rate of change best prognostic indicator



Objective 2.

To Gain an Approach to
Prognostication at End of Life
for Stroke



Case Study 2.

Mrs. L. 82 y.o. - large L intracerebral hemorrhage, intubated in ER

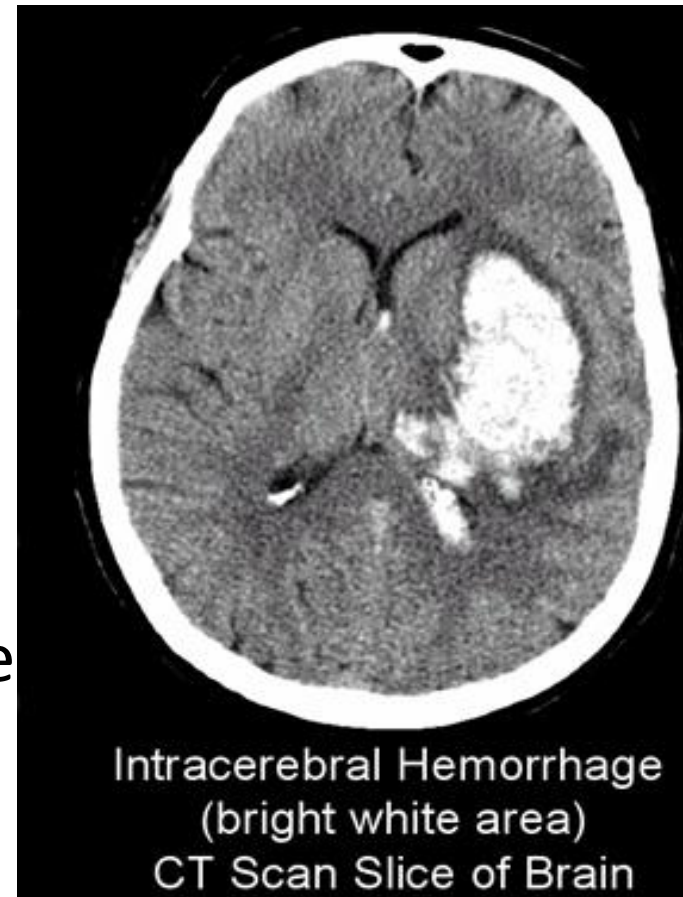
CT shows intraventricular extension and midline shift

Pt moving L arm towards face, eyes closed, nonverbal

Getting progressively less responsive since extubation an hour ago

Family wants comfort care only

What is her Prognosis??



Stroke Mortality

- ❑ If ICH - 50% die within 28 days
- ❑ Risk of death a year after stroke:
 - 2x for patients over 70
 - 20x for patients under 60
- ❑ If referred to palliative care:
 - Median time for referral 3.6 days
 - Median time to death 8.5 days

(Blacquierere, *C J Neuro Sci*, 2009)



TABLE 1. ICH AND ESSEN SCORES FOR CALCULATING PROGNOSIS

	<i>ICH score</i>	<i>Points</i>	<i>Essen score</i>	<i>Points</i>
Age	≥80	1	<60	0
	<80	0	60–69	1
			70–79	2
			≥80	3
Level of consciousness	GCS 3–4	2	Alert	0
	5–12	1	Drowsy	1
	13–15	0	Stupor	2
			Coma	3
Volume of ICH	≥30	1		
	<30	0		
Intraventricular hemorrhage	Yes	1		
	No	0		
Infratentorial origin	Yes	1		
	No	0		
NIHSS Score			0–5	0
			6–10	1
			11–15	2
			16–20	3
			Coma or >20	4
Total		0–6		0–10

Adapted from Hemphill JC, Bonovich DC, Besmertis L, Manley GT, Johnston SC: The ICH score: A simple, reliable grading scale for intracerebral hemorrhage. *Stroke* 2001; 32:891–897; and Weimar C, Benemann J, Diener HC: Development and validation of the Essen intracerebral haemorrhage score. *J Neuro Neurosurg Psychiatry* 2006;77:601–605.

ICH, intracerebral hemorrhage; GCS, Glasgow Coma Score; NIHSS, NIH Stroke Scale.

(Simmons, *J Pall Med*, 2008)

NIHSS – 11 Point scale assessing:
consciousness, motor skills, sensation, ataxia, dysarthria, aphasia

Prognostication Scores

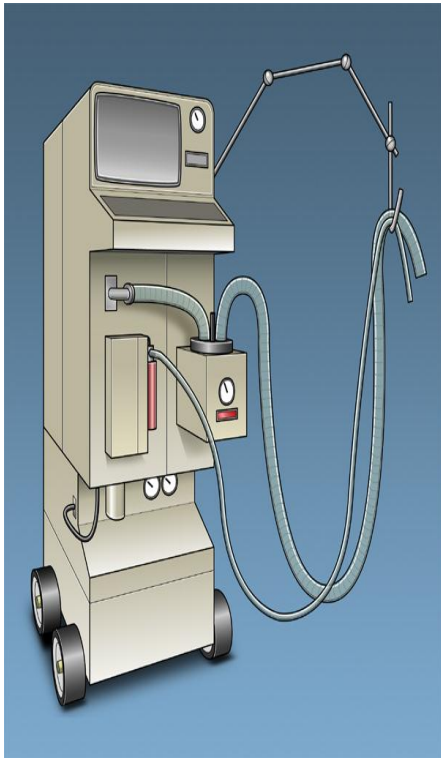
- ❑ Essen score >7 predicts 100 day mortality with 44% sensitivity and 95% specificity
- ❑ Score <3 predicts complete recovery with 85% sensitivity and 86% specificity
- ❑ ICH score 79% sensitivity and 90% specificity for predicting mortality when score 3 or greater

(Simmons, *J Pall Med*, 2008)

DNR when 2/3 present ??

1. Severe stroke, defined as persistent/deteriorating neurological deficit, little or no activity on at least one side of the body, and with either impaired consciousness, global aphasia, or lack of response (GCS < 9).
2. Life-threatening brain damage, associated with brainstem compression, intraventricular extension, cerebellar lesions, infratentorial location involving multiple brainstem levels, or midline shift.
3. Significant comorbidities, including pneumonia, pulmonary embolism, sepsis, recent myocardial infarction, cardiomyopathy, and life-threatening arrhythmias.

Mechanically Ventilated Stroke Patients



Inpatient mortality 55% (48%-70%).

- 30-day mortality 58% (46%-75%)
- 1 -2 year mortality 68% (59%-80%)

(Holloway, *JAMA*, 2005)

Survival post extubation:

- 25% die within an hour
- 69% die within 24 hours
- Median duration 7.5 hours
- Majority experience agonal/labored breathing following extubation

(Mayer, *Neurology*, 1999)

Management After Ventilator Withdrawal

- ❑ Dyspnea
 - Opioids significantly decrease tachypnea
 - No change in SaO₂, PaCO₂ and pulse rate
 - No statistical association between escalating opioids post vent withdrawal and time of death
 - (Clemens, *J Pain and Symp Manage* 2007 and Chan, *Chest* 2004)



Objective 3.

- ❑ To list conversation starters to help determine goals of care at end of life.



Communication With Stroke Patients – When?

- Initiating medical treatment
- 3-4 months into any treatment
- When medical condition deteriorates
 - Acute medical or surgical crisis
 - Decrease QOL or increase symptom burden
- When patient initiates
- When any member of the multidisciplinary team feels they wouldn't be surprised if the patient died within a year

Communication Starters with Patients

- ❑ “Many people think about what they might experience as things change and their condition progresses.” (Normalize)
- ❑ “Have you thought about this?”
- ❑ “Do you want me to talk about what changes are likely to happen?”
- ❑ Talking early allows patients to make own decisions

Family Discussions about End-of-Life in Stroke

- ❑ Concerns of family:
 - Provision of information
 - Management of pain and symptoms
 - Provision of nasogastric feeding and IV hydration
- ❑ Tube feeding:
 - Relatives less desirous than professionals
 - Professionals worried about hunger and starving



(Addington Hall, *Stroke*, 1995)

Tube Feeding in Stroke

- ❑ No significant differences in mortality outcomes between early enteral tube feeding or not
 - (slight absolute difference in favour of feeding)
- ❑ No excess pneumonia in early tube feeding
- ❑ Small apparent improved survival offset by 4.7% excess of survivors with poor outcome and worse quality of life

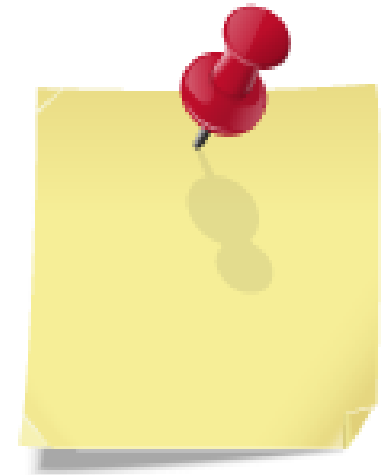
- ❑ “Thus, early feeding may keep patients alive but in a severely disabled state when they would otherwise have died.”

Substituted Decision Making – Phrasing for Families

- ❑ “If he could come to the bedside as healthy as he was a year ago, and look at the situation for himself now, what would he tell us to do?”

Or

- ❑ “If you had in your pocket a note from him telling you that to do under these circumstances, what would it say?”



Helping Families Who Missed The Death

- Some family members will miss being present at the time of death
- Consider discussing the meaningfulness of their connection in thought & spirit vs. physical proximity



□ National Clinical Guidelines for Stroke

- Recommend all pts should have access to specialist palliative care expertise
- All staff should have appropriate training

(Intercollegiate Working Party on Stroke - 2004)

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Thank you.

