

ATYPICAL PRESENTATIONS OF COMMON DISEASES

GOAL:

- 1) To recognize atypical presentations of infection, heart and thyroid diseases in elderly.
- 2) To understand the reasons behind the atypical presentations.

OBJECTIVES:

- 1) List alterations in physiology with aging that are causes of altered presentations.
- 2) Identify symptom complexes that will lead you to appropriate evaluations.

1

I) PHYSIOLOGY and AGING

Key changes with age that are behind these altered presentations.

- A) Thermoregulation:
- B) Cardiac - Autonomic system
- C) Volume regulatory
- D) Immune dysregulation

E) Central nervous system

A) Thermoregulation:

1) Lower basal body temperatures

Aged normal: rectal = 36.8-37.2 C (98.2-98.9F)

oral = 35.8-36.8 C (96.4-98.2F)

ear (IRED)= *fever* = >37.2C (>99.0F)

2)Why: -decreased heat production per kg. body weight

-reduced muscle activity (thermogenesis)+less efficient shivering

-decreased meal induced thermogenesis

Definition	Sensitivity	Specificity
T > 101 F (38.3 C)	40.0%	99.7%
T > 100 F (37.7 C)	70.0%	98.3%
T > 99 F (37.3 C)	82.4%	89.9%

“Therefore old people are “*cooler*” than young people”

Eddie 1998

B) Cardiac - Autonomic system

System	Aging Physiologic change	Clinical effect
Autonomic Nervous System		
Beta- adrenergic systems 9 <i>(Beta system decrease due to decreased <u>receptor responsiveness</u>)</i>	9 Max. heart rate	More/earlier :
	9 Max C.O.	CHF
	9 Max. VO ₂	Pulmonary Edema
Alpha-adrenergic system --- <i>unchanged</i>	8 Systemic. vascular. resistance	Hypotension
	9 Vasodilator response	Impaired Cardiac Output
		Impaired response to stress
Cardiac System:		
Myocyte loss with compensatory hypertrophy	8 LV wall thickness, 8 LV stiffness,	<i>Ischemia presents more often</i>
	9 LV compliance & relaxation	as dyspnea due to transient
	9 LV filling with 8 reliance on LA systole	increased LV end diastolic pressure

C) Volume regulation

- 1) decreased body water reserves due to decrease percent body water.
- 2) decreased thirst drive
- 3) decreased ADH response to hypovolemia
- 4) age related renal dysfunction:

SUMMARY: *they take water less in , have less water reserves, and are less able to retain.*

RESULT: *Earlier and faster dehydration than younger counterparts*

D) Immune dysregulation-----T cell & Antibody
-decreased responsiveness

E) Central nervous system

1) Executive control and decision making

In: a) Normal aged

b) Cognitively impaired

SUMMARY

*“ Age is marked by maintenance of **basal** physiologic functions thru use of physiologic **reserves** thus impairing their own ability to respond to stress.*

*****SEPSIS*****

I) Definitions:

1) Sepsis **-diffuse inflammatory response**
-organ dysfunction

-diffuse inflammatory response

exemplified by: -alteration in body temperature

- tachycardia
- tachypnea,
- decreased or elevated WBC's
(< 4000 or $> 12,000$)
- organ dysfunction:** e.g
 - hypoperfusion
 - hypotension
- mental status changes**

Septic shock = sepsis *plus* severe hypotension

II) Epidemiology

A) Incidence:

40-50% of all bacteremia occurs in the elderly.

60-70% of all deaths due to sepsis occur in the elderly

B) Mortality:

30-40% mortality with sepsis

70-80% mortality with septic shock

Why? One reason we can fix:

delay in diagnosis due to failure to show typical signs.

C) Clinical Presentation; or “Non-presentation”

192 septic patients: 13% afebrile= (25 patients)¹²
Of afebrile -4/25= hypothermic
-8/25=absent leukocytosis
Good news! -21/25= had a *left shift*

Atypical symptoms:^{13, 14}
-CHANGE IN MENTAL STATUS-----52%¹⁵
-CHANGE IN FUNCTIONAL STATUS
-anorexia
-falls
-blood sugar alteration
example: 100 community acquired sepsis¹⁶
34%(34)-----urinary source
6/34 had dysuria, urgency or other urinary sx.

“Don't expect to win, when you play cards with Grandpa, because he'll never show you his hand” **Eddie 1998**

D) Sources of infection
urinary -27-44%

respiratory -20%

abdominal -20%

E) Organism type
Gram-negative-65%

Gram-positive--24-36%

F) Indicators of mortality risk
-neutropenia

-S. aureus infections

-lower respiratory infections

-age > 85 years

-WBC < 5,000

-patients not treated with the appropriate antibiotic within the first 24 hours.

- G) Treatment; -RAPID
 -Broad spectrum-----S. aureus
 -aerobic gram-negative bacilli
 -Enterococci
 If intrabdominal source=>anaerobes

*******MYOCARDIAL INFARCT*******

I) The “***Bad News***”

A) Incidence

- 60% of all MI's occur in > 65 y.o.

- 30% of all MI's occur in > 75 y.o.

Autopsy 70% of 70 y.o. CAD with \geq 50% obstruction of coronary arteries

B) Changes with Old-Old (> 80)Age¹⁷

As we age beyond age 65:

INCREASED:

women, CHF, renal insufficiency, functionally disabled

DECREASED:

males, diabetics, nonwhites, COPD, prior revascularization

Clinical presentation changes with MI:

INCREASED:

CHF, tachycardia, AMI's, **> 6 hr from onset presentations**

DECREASED:

chest pain with MI's; ST segment elevation, LBBB, enzyme elevation

C) Mortality

- in age > 70 y.o: mortality = 3 x younger age group
survival for 1 year after MI = 60%
survival for 2 years after MI= 50 %

D) Why so bad?

- preexisting cardiac disease
- preexisting risk factor diseases (DM, hypertension etc)
- LESS AGGRESSIVE management:

-decreased thrombolytic therapy

-30% of 65-74 meet criteria, 20% of age>80 meet criteria¹⁸

-Delayed treatment: in > 75 yo

(> 60 min from time of arrival 1.5 X under 75 y.o.)

CAUTION:

-age > 80 eligible recipients increased odds of death (1.4) compared to nonrecipients of thrombolytics

Complications of (hemorrhagic) stroke with TPA:

GUSTO: If <75 y.o (0.52%)

If >75 y.o. (2.08%)

- decreased coronary bypass surgery

Complications: in > 80 y.o.

- 11.55% mortality

- 2.5% stroke

-60% delirium with 10% permanent cognitive impairment

Indications:

-better than PCTA in: - DM,

*-left Main disease
-multivessel with low EF*

- **decreased PTCA & stenting**
- *PTCA & stenting better than Thrombolytics with lower 3and360 day mortality and less CHF*

Complications: - 0.2% PTCA,
- 0.9%thrombolytics

Invasive strategies improve outcomes in MI's
~90% of ACS (unstable angina) can be stabilized with medical management,
If patients continue with unstable angina symptoms 30 mins after initiation of therapy or recurrent symptoms during hospitalization
L L L coronary angiography

How do we do?

Acute MI-1996 and 2001-Elderly
ASA-----within 24 hrs----55%

B-Blockers-----within 12 hrs----39%

Thrombolytics-within 90 mins-26%

-DELAYED or UNRECOGNIZED presentation

Patients with Q waves

Age > 65 y.o. (all)=> 25 % "silent" Q wave infarct.

Age 75-85 y.o.(men) = 42 %"silent" MI

Age > 80 y.o. (all) => 60% "silent MI

More women than men in all ages= "silent" MI's

Silent defined as:

-no symptoms at all (50%)

or

-atypical symptoms that were unrecognized (50%)

D) Atypical symptoms **of MI**

- syncope -7%
- stroke -7%
- palpitations -4%
- dyspnea -20-50%
- confusion -13%

E) Atypical symptoms of **unstable angina** (N = 4,167)

~50 % of patients > 65 y.o. presented with these symptoms:

-Dyspnea

-Nausea

-Diaphoresis

-Atypical chest pain or discomfort not located in the chest

(ie rather located in arms, epigastrium, shoulders and neck)

Patients more likely to present with atypical symptoms:

- older,
- female,
- demented,
- no history of MI
- no history of hypercholesterolemia
- no family hx cardiac disease

Less likely to receive on admission:
ASA, antiplatelet agents, heparin or beta-blockers

F) Outcomes:

1) Recognized vs unrecognized SAME PROGNOSIS
for ----- -another MI

-ventricular fibrillation

-sudden death

-in hospital mortality

*******HYPERTHYROIDISM*******

I) SYMPTOMS:

TYPICAL IN YOUNG:

- fine tremor
- skin: moist smooth
- increased perspiration
- ophthalmopathy
- bowel frequency

*Elderly may present with the above symptoms but the **atypical** symptoms are more common:*

-tremor: -usually not present but if present
coarse

-skin: -no change

- perspiration* -no change
- eyes* -occasional ophthalmopathy usually no change
- bowels* -no change, occasionally the “joyful” relief from constipation.

WHAT ARE THE TYPICAL SYMPTOMS
OF
HYPERTHYROIDISM IN THE ELDERLY?:

- anorexia
- weight loss-----usually quite significant
- muscle wasting primarily in proximal muscles
- change in cardiovascular functioning:

cardiac presentations of hyperthyroidism

- new or worsening CHF-----60%
- atrial fibrillation-----40%
- new or worsening angina-----20%

Apathetic hyperthyroidism:

- Depression
- Apathy
- Placid Facies

(Mimics depression or parkinsonism)

II) TESTING - TSH-ultrasensitive is the screening test of choice

III) CAUSES

25%- of thyrotoxicosis had iodine contrast in the previous 3-8 weeks.

How do you tell the difference?

24 hour Iodine 123 uptake.

*****ATYPICAL PRESENTIONS OF COMMON DISEASE--the Pearl Card***

I) PHYSIOLOGIC CHANGES OF NORMAL AGING

A) Thermoregulation:

1) Lower basal body temperatures

Aged normal: **oral** = 35.8-36.8 C(96.4-98.2F) **rectal** = 36.8-37.2 C (98.2-98.9F)

ear (IRED)(*fever*) = >37.2C (>99.0F)

B) Cardiac - Autonomic system Beta- adrenergic systems---decreased

Alpha-adrenergic system-----unchanged

LVH (*compensatory*)

C) Volume regulation

- 1) decreased body water reserves due to decrease percent body water.
- 2) decreased thirst drive
- 3) decreased ADH response to hypovolemia
- 4) age related renal dysfunction:

D) Immune dysregulation-----T cell & antibody: -decreased responsiveness

F) Central nervous system: Executive control & decision making change with age.

II) SEPSIS

-diffuse inflammatory response

-organ dysfunction: e.g -hypoperfusion -hypotension -mental status changes

A) TYPICAL SYMPTOMS OF SEPSIS IN ELDERLY::

-CHANGE IN MENTAL STATUS(50%)

-CHANGE IN FUNCTIONAL STATUS

-anorexia

-falls

-blood sugar alteration

B) Sources of infection: urinary(27-44%), respiratory(20%), abdominal(20%)

C) Reasons for failure:age>85,neutropenia, S aureus, lower resp. inf., patients not treated with the appropriate antibiotic within the first 24 hours.

III)MYOCARDIAL INFARCTION

A) Atypical symptoms

-syncope -7%

-stroke -7%

-palpitations -4%

-dyspnea -20-50%

-confusion -13%

B) Treatments: *underutilized* 1) thrombolytics 2) PCTA 3)Beta-blockers 4) ASA

TYPICAL SYMPTOMS OF HYPERTHYROIDISM IN ELDERLY:

-anorexia

-weight loss, muscle wasting (proximal muscles)

-change in cardiovascular functioning:

(-new or worsening CHF (60%),atrial fibrillation (40%), new or worsening angina (20%)

Apathetic hyperthyroidism: - Depression, Apathy, Placid Facies

II) TESTING (-TSH-ultrasensitive), occasionally Free T-3 and Free T-4

III)CAUSES:

-toxic nodular goiter,

-single hyperfunctioning nodule

-diffuse toxic goiter(Graves)

- **iatrogenic** (excess thyroid replacement, or **s/p iodine contrast**)

12/30/02evv

