



Is Geriatrics Living Among the Dead?

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ABSTRACT

Background: The aging demographic has created a geriatric educational imperative to infuse innovative geriatric learning opportunities into a crowded medical school curriculum. Clinical reviews of anatomy cadavers, most of which are older adults, represent one such underutilized integration prospect.

Purpose: To introduce a patient-centered approach, explore aspects of functional ability, and bring a clinical perspective into a basic science course.

Methods: Initiated in the summer of 2007, clinical faculty were uniquely integrated into the first and last sessions of the 10-week anatomy course. On Course Day 1, clinical faculty provided 20-minute overviews for 4-5 students per cadaver. Day 1 introduced skills of observation noting estimated age, evidence of medical conditions (ex: muscle atrophy suggesting hemiparesis), procedures (ex: pacemaker implants), and anticipated functional ability with associated caregiving needs. Cadavers were introduced as the students' "first patient" and genericity of body donation was specifically noted. On the last 3 days of the course, clinical faculty attended 2-hour sessions wherein 20 groups of 6 students presented cadaver case summaries.

Results: The case summaries were reviewed for content relating to the person-centered approach, functional ability, and clinical skills. Half (10 of 20) of the groups demonstrated a humanistic approach by thanking their first patients. Use of clinical skills were evident (9 of 20) in use of general observations including age and body habitus. There was also evidence that students self-applied concepts of geriatrics (21 items) into the presentations and an additional 9 groups noting possible dementia. Unanticipated benefits described by the anatomy professor with over 30 years teaching experience include a higher level of professionalism in the lab, student-student, student-cadaver interactions and a clearer understanding about the similarities and differences in younger and older anatomy. There were also more deliberate expressed appreciation for the cadaver observed by the course director. The presentations also yielded a "model" presentation that explicitly demonstrates a summary of the critical learning objectives that may be used with future students.

Conclusion: While the anatomy lab has not been routinely considered a prime location for the incorporation of geriatrics content, we have found this to represent an invaluable educational opportunity.

EDUCATIONAL ACTIVITY

Introduction of anatomy cadaver as Year 1 medical students' "first patient." The purpose of this is to introduce a patient-centered approach, explore aspects of functional ability, and bring a clinical perspective into a basic science course.

Learning Objectives

The student will be able to:

- Apply clinical observation skills of general appearance including age, gender, body habitus, and identifying features to the cadaver.
- Associate identified clinical findings with anticipated impact on daily life including ADLs (bathing, dressing, grooming, mobility) noting any aides, confinement, feeding), IADLs (phone use, med use, shopping, cooking, cleaning, finances, transportation), AADLs (recreation, church, school, work), relationships, and self-concept.

Agenda

First 10 minutes (Learning objective 1):

- Briefly discuss the 4 areas of general appearance
- Unveil head/face only, apply observation skills to general appearance
- Unveil rest of body, consider additional information for 4 areas
- Turn patient over, consider additional information
- Assist recognition of interesting findings and identifying features.
- Identify patient's age and occupation (using anatomic number and chart posted in lab)
- Comment on the concept of age comparison

Second 10 minutes (Learning objective 2):

- Associate identified clinical findings with anticipated impact on daily life. Provide an introduction to functional ability, ADLs, IADLs, AADLs with possible means of compensation.
- For example if an older patient has had an above the knee amputation of right leg what could be the impact:
 - ADLs: Difficulty standing to bathe (compensation: use of shower chair)
 - IADLs: Difficulty driving (compensation possibly use of left foot or hand controls, public transportation)
 - AADLs: Consider impact on known occupation or influence on recreation
 - Relationships and self-concept: Consider the amount of care needed; effort to meet these needs; location of care: home or facility; duration of disease process(es). Encourage reflection on how these issues may affect relationships.

CLINICAL SKILLS AND GENERAL OBSERVATIONS

Basic Information

- Age: 81
- Gender: Female
- Race: Caucasian
- Occupation: Unknown
- The body habitus is normal
- The lower limbs are atrophied

Overview

- 74 year old Caucasian female
- Appeared younger than stated age
- 5'6 (173)
- 140 lb (64 kg)
- Primary Cause of Death: Pneumonia
- Other significant findings: High-Calcium Artery Calcification, Deep Ingrown Toenails, Osteoarthritis, Dermatitis

Overview

- Female, 81 years old
- Obvious manner: thin, normal eye
- 5'6" approximately (168 cm)
- Normal, well-developed feet
- Cause of Death: Acute MI, Myocardial Infarction, Heart Failure, Associated Hypertension, Diabetes

THINKING THROUGH THE BRAIN

Risk Factors of Cerebral Atrophy

- Sex and gender (depression reported with females)
- Family history as likely a risk in this female anatomy
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Possible Consequences

- Cerebral atrophy can lead to:
 - Confusion
 - Memory loss
 - Personality changes
 - Depression

Alzheimer's Disease (cont.)

- Causes & risk factors:
 - Genetics
 - Age
 - Head trauma
 - Family history
 - Smoking
 - Education level
 - Cardiovascular disease
 - Difficultly maintaining weight
- Signs and symptoms:
 - Memory loss
 - Personality changes
 - Behavioral changes
 - Difficulty completing familiar tasks
 - Confusion with time or place
 - Decreased judgment
 - Problems with abstract thinking
 - Loss of initiative
 - Changes in mood and personality

IMPLICATIONS & EXPLANATIONS OF ANATOMICAL FINDINGS

Wrap Up

- 2011 year of study
- 100% of students
- 100% of students

Overview

- Cause of Death: Not clear, pneumonia complication in pneumonia
- Contributing Factors: Possible coronary artery bypass, IAD and AADL activities
- Extensive arteriosclerosis and calcification of cardiovascular system not necessarily visible
- Necessity associated finding on the brain, but may assist in locating the geriatric conditions.

Risk Muscle Atrophy

- Overview:
 - Small atrophy
 - Atrophy: Atrophy is the loss of muscle mass due to disuse, aging, or disease
 - Causes: Disuse, aging, disease
 - Effects: Weakness, loss of strength, loss of endurance
 - Prevention: Exercise, proper nutrition, adequate rest

ATTENTION TO END OF LIFE ISSUES

End of Life Care

- Overview:
 - End of life care: The care and support provided to patients in the final stages of their lives
 - Goals: Comfort, dignity, and quality of life
 - Components: Palliative care, hospice, and end-of-life care

Other Findings

- Small atrophy
- Atrophy: Atrophy is the loss of muscle mass due to disuse, aging, or disease
- Causes: Disuse, aging, disease
- Effects: Weakness, loss of strength, loss of endurance
- Prevention: Exercise, proper nutrition, adequate rest

GERIATRIC CONCEPTS NOTED IN PRESENTATIONS

21 comments on geriatrics concepts

(in addition to 9 comments on brain failure)

Syndromes:

- Falls
- Nutritional compromise
- Dysphagia
- Gait abnormality
- Immobility

Care considerations:

- Allergies to medications
- Modifiable risk factors
- Risk to benefit ratio
- Quality of life
- Pain management
- Hospice



Immobility

It is noted that the patient has a condition that prevents her from being able to stand for long periods of time.



EXAMPLES OF COMMON PATHOLOGY

Hysterectomy

- One of three women in the United States has had one by age 50.

Brain: Atrophy / dementia, Hemorrhage
Heart: Atherosclerosis
Lungs: Emphysema, Pneumonia
Abdomen: Inguinal hernia, GU / Gyn, Hysterectomy

Musculoskeletal: Osteoarthritis, Osteoporosis, Scoliosis / kyphosis, Hip / knee replacement

Reasons for Hysterectomy

- 10% of women in the United States have had one by age 50.
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PATIENT CENTERED



As we remember our silent teachers... The Class of 2011 and Bridge Students cordially invite you to the 2007 Memorial Ceremony to remember those who wild their bodies in the name of medicine and knowledge

In Memoriam

Those silent teachers who taught us the appreciation we have for the gift of life, knowledge and life. Remember your life by filling ours with knowledge.

It is noteworthy that 10 of 20 teams expressed appreciation to their first patient in their final presentations.

CONCLUSIONS

- Anatomy course cadavers tend to be older adults (mean age 81 years old).
- A wealth of opportunity to illustrate normal aging and common age related pathology exists.
- Students can successfully integrate functional implications of anatomical findings.
- "First patients" approach fosters professional behavior among peers and promotes patient compassion.