The Importance of Medical History Taking in the Current Era of Technology

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Introduction

• The general concept is that use of technology destroys or retards specific diagnostic skills; this thesis, however, has never been thoroughly evaluated.

• Conversely current generation of physicians armed with current technology can reach a diagnosis that would have been obtained only at autopsy several decades ago.

• A more realistic approach is to view modern technology as an extension of the examiner's senses.

• Also it is important to ask at this point, if medical history taking and patient physical examination have followed the evolution of medical science and technology.
Medical History Taking

- Patient-doctor relationship (the “interview”)
- A basis for diagnosis
- How to obtain a thorough medical history
- A blend of tradition and technology
- Conclusion
Medical History: Patient-Doctor Relationship

- The medical history (interview) is the foundation for developing a relationship and the basis for establishing mutual trust between the patient and the physician.
- The medical interview may influence subsequent events in ways that neither the patient nor the physician can possibly comprehend at the time.
- Patients remember the first interview for a long time with a remarkable clarity.
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Medical History: A Basis of Diagnosis

• The information obtained during the medical interview is the first step for a clinical diagnosis.

• Medical history will assist the thinking physician to order the appropriate diagnostic tests (pre-test probability).

• For example, when to order...
  – stress test
  – computer tomography
  – hemodynamic studies
  – coronary arteriography
  – other

• A failure to obtain appropriate information may contribute to errors in diagnosis and management, and can result in unnecessary iatrogenic complications.
Medical History: A Basis of Diagnosis

- Information to make an accurate diagnosis, when symptoms are intermittent, is available only in medical history (interview)
  - angina
  - intermittent cardiac arrhythmias
  - syncope
  - fatigue
  - other

- A medical interview tells a physician about a patient’s symptoms not only for time present, but also for time past
Family Medical History
(Heritable-familial disorders are frequently diagnosed on the basis of history; family with heart problems)

- Cardiomyopathies
- Channelopathies (sudden cardiac death)
- Connective tissue disorders
- Valve disease (FMV/MVP, bicuspid aortic valve)
- Body habitus of relatives, physical resemblance
- Other
Geneology Meets Genetics: Genetic Analysis Based on Family History

- All family members with heritable disease are potentially at risk for developing the disease.
- Genetic analysis based on family history will precisely define the risk of each individual for developing this inherited disease.
- Family members without the mutation have no need for longitudinal and expensive clinical evaluations; they are also free of social, as well as, psychological issues associated with the disease.
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Medical History (Interview): How to Obtain a Thorough Medical History

- Conversation-comfortable discussion (this separates clinicians from veterinaries)
- Chronological developmental history (place of birth, education, how patient grew-up)
- Let the patient tell his/her story without major interruptions (each patient has his story to tell)
- Starting from birth and moving on to present time, a physician will acquire solid background information on a patient’s problems and a good basis to investigate family history
- Then move to cross examination; ask the patient, “what is the one thing that bothers you the most?”
The Present Illness and Past Medical History Concept

• The present illness and past medical history concept is based on the assumption that the patient and the doctor know when the present problem began.

• The fact is that often, neither the patient nor the doctor are certain what belongs under the category of past history.

• This is particularly important when dealing with a lifelong, systemic, heritable, or progressive medical disorder or disease.
Family OSU: Lamin A/C Mutation

**Symptoms/Manifestations**
- AV block
- Pacemaker
- Heart Failure
  - Ventricular tachycardia
  - Cardiac arrest
  - Defibrillator
- Minor AV conduction abnormalities
- PACs

**Generation**
- V
  - Affected
  - Sudden Death
  - Deceased

**Birth**
- 43
- 45
- 50
- 55
- 60
- 61

**Affected**

**Sudden Death**

**Deceased**
The Two Languages of Medical History

- **The first language** – “patient’s language”
- **The patient** describes a symptom, a symptom complex, an event, or series of events to the physician.

- **The second language** – “medical language”
- **The thinking physician** translates the patient’s descriptive data into medical terms as the medical interview develops.
- **The translation** is an active and dynamic process. This intellectual process triggers what is known about the pathophysiology of the symptoms.
- **The beginning of a diagnosis** may occur at this time.
The Two Languages of Medical History

First Language
(“patient’s language”)

• Chest pain
• Shortness of breath
• Palpitations
• Passed-out
• Other

Second Language
(“medical language”)

• Myocardial ischemia
• Heart failure, lung disease
• Intermittent arrhythmias
• Causes of syncope
Medical History: Careful Evaluation of Present and Past Medications!!!

- Inappropriate use of Pharmacologic agents constitute a major cause of errors in clinical practice
- Drug-drug interactions
- Same drugs with different names
- Side effects
- Other
Medical History in Acute or Emergency Setting

• There is an obvious need to go to the “short form” of the medical interview and to gather information from other sources

• The “short form”, however, should not be confused with “short cut”
“We can be knowledgeable with other men’s knowledge, but we can’t be wise with other men’s wisdom.”

- Montaigne, 1533-1592
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Medical History: A Blend of Tradition and Technology: The Third Language of Medical History

• Integrating contemporary technology with traditional wisdom augments the power of both

• Medical students of present time are growing up with computers, visual images, graphs, other; they use their brain in different ways than their predecessors; they process images quite effectively

• Moving from “patient language” to “medical language” to graphic presentation, provides a dynamic course of a disease (stable, unstable, improving)

• Graphic format may outline comorbidities, disease interactions, systemic diseases, other

• Development of a graphic format of a pedigree provides invaluable information in families with heritable disorders/diseases
FMV/MVP/MVR: 65 y/o male

- Abnormal stress test; NL coronaries
- Murmur MVP
- Cath MVR ↑ LV-LA
- Chest pain
- Endocarditis Attrial fib.
- Paroxysmal Attrial fib.
- Surgery
- Sinus rhythm
- No antiarrhythmics
Family OSU: Lamin A/C Mutation - Sibling 5

Generation

I
II
III
IV
V
VI
VII
VIII
IX

Atrial fibrillation
Deceased
Medical History Taking

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Medical History: Concluding Remarks

• The medical interview is the foundation for the patient-doctor relationship

• Information from the medical interview is the first step for a correct clinical diagnosis

• Information from the medical history will guide the “thinking physician” to order the appropriate tests in order to establish a diagnosis and then to provide the best possible management

• When symptoms are intermittent, information is available only in the medical interview

• The medical interview is the basis for genetic analysis in patients with heritable/familial diseases

• Integrating contemporary technology with traditional wisdom augments the power of both
Medical History Taking and Patient Physical Examination Should Follow the Evolution of Medicine

- Genome atlas
- Molecular imaging
- Wireless
- Telemedicine

Life expectancy from 1850 to 2000

Metamorphosis of Diseases

- Certain Infections Diseases
- Iatrogenic Diseases
- Life Expectancy
- Atherosclerosis
- New Diseases
Cardiovascular Teaching Laboratory: The Master Class in Ambulatory Teaching.

Wooley CF, Sparks EA, Oslen S, Boudoulas H.

*Hellenic J Cardiol* 2008; 48: 7-16
Medicine is a vocation in which a doctor’s knowledge, clinical skills, and judgment are put in the science of protecting and restoring human well-being. Integrity, compassion, altruism, continuous improvement, excellence…”

- Royal College of Physicians, 2004
The Care of the Patient

“...the secret of the care of the patient is in caring for the patient.”
- F. W. Peabody

- Family Medical History
- Medical History (multiple diseases)
- Psyche
- Other

From Hands to Head to Heart
Family Medical History: A Basis of Diagnosis

• The family history is a source of genetic information; a real insight into heritable/familial disorders/diseases

• The evolving era of molecular and genetic medicine will re-identify family history and the development of pedigrees
Do Not Forget That You Are Dealing With Only One Individual Patient And Not With a Disease
Medical History: Is it Cost Effective?

• Superficially, time spent obtaining a medical history may generate a fraction of what can be generated from doing a procedure in the same amount of time.

• However, the long-term consequences of a missed, incomplete, or inaccurate diagnosis are rarely considered in a cost-effective analysis.

• The question is not how much a patient will cost at one particular time (superficial view), but how much will it cost for one’s entire life (the big picture approach).