DIAGNOSTIC CRITERIA

Merna Faeak ,,Bushra Zidan,, Manal Alharbi

OBJECTIVES

01 Method to reach diagnosis

02 Hypothetico-deductive diagnosis and History taking

03 Physical examination and management plane

04 Diagnosis &The concept of diagnostic model

05 Patient centered medicine

06 Difficulties that medical students face in making diagnoses

TRIPLE DIAGNOSIS

- In generating diagnostic hypothesis , it is essential to think in these terms:

1. **Physical**

2. **Social**

3. **Psychological**

- This is not to suggest that all disease have Physical ,Social and Psychological components in equal measures.

METHOD TO REACH DIAGNOSIS

Inductive method problem solving	Hypothetico-deductive problem solving
A **comprehensive** history and system review followed by a **complete** physical examination , backed up by several of routine investigation.	By **educated guessing and testing** (multiple hypothesis –guided , problem-oriented enquiry)
Mainly used by medical student for learning purposes , if the patient has vague symptoms and serious underlying cause cannot be excluded	Actual clinical practice
Start with fact and details and move to general conclusion	Start with a conclusion , then explain the fact and details
Observation→ pattern→ hypothesis → theory (**bottom-up** logic / more specific to general)	Theory→ hypothesis →observation →conformation (**top-down** logic / general to more specific)
Not be use by all practitioners • Time consuming • unfocused •	This method is efficient as it enable to solve problem with maximum time and cost effectiveness and minimal disturbances to the patient

HYPOTHETICO-DEDUCTIVE PROBLEM SOLVING

1- Pre-diagnostic interpretation: the doctor begins to assess the patient's problems in terms of broad categorizations rather than specific diagnostic entities.
(according to anatomy or systems)
2- Ask particular questions in an attempt to find support for, and to discriminate between the diagnostic possibilities he has previously generated.
3- Selective and discriminating approach to physical examination to provide confirmatory evidence in favor of one or more diagnostic probabilities.
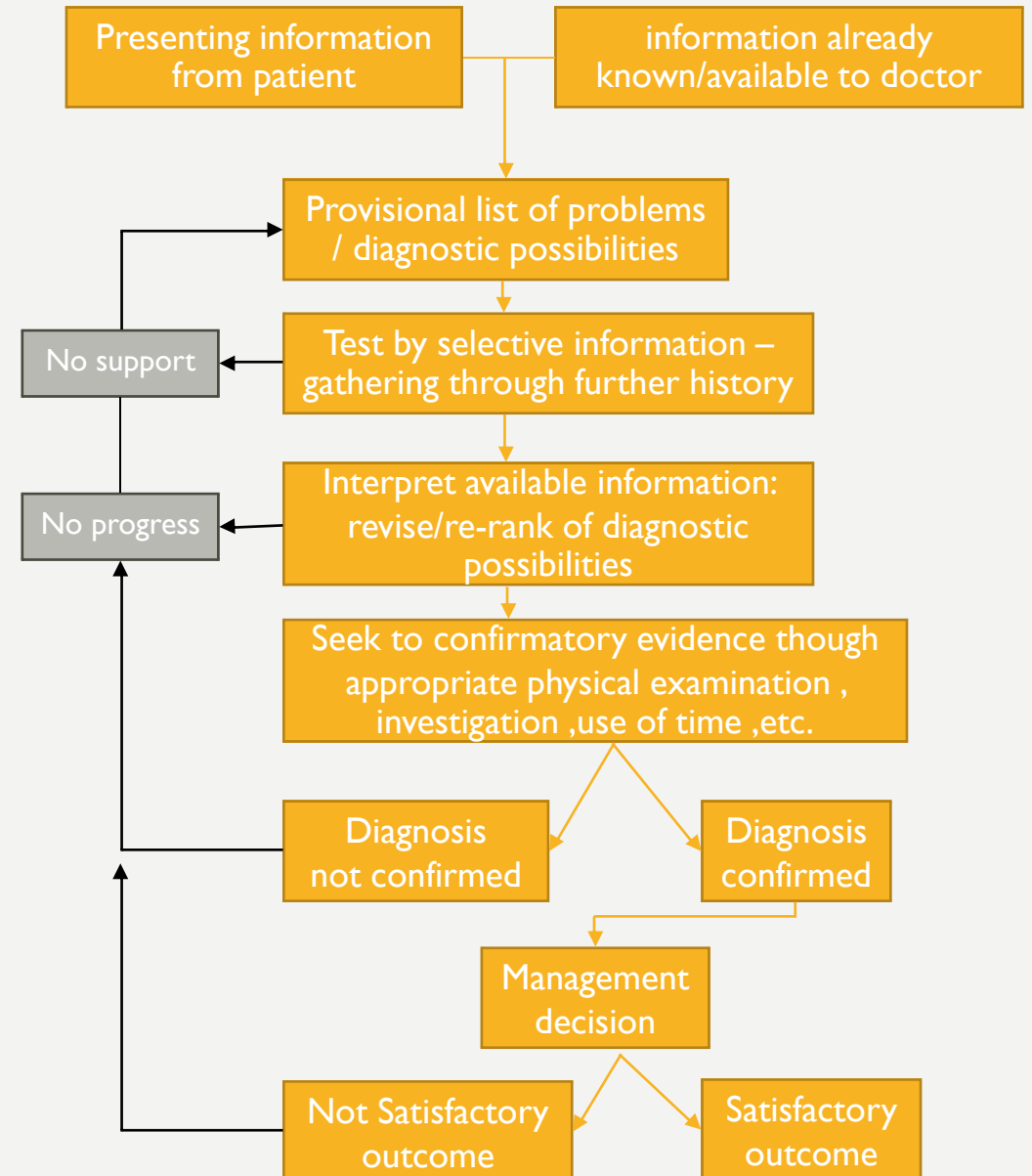
HYPOTHETICO-DEDUCTIVE PROBLEM SOLVING AND HISTORY TAKING

- File information

-Chief complaint and Duration

– The differential diagnosis is based on:

1. Probability

2. Seriousness

3. Treatability

4. Novelty

(At least seven differential diagnoses arranged from most likely to the least likely) .

HISTORY TAKING

- Taking a proper history is the single most important step
- – An ideal history must cover all of the following :
- 1) SOCRATES (for all complaints)
- ✓ Site (can be ignored in certain situation such as dizziness)
- ✓ Onset
- ✓ Character
- ✓ Radiation –
- ✓ Associated symptoms : pertinent clues for each one of probability , seriousness, treatability and novelty
- ✓ Timing , duration , frequency
- ✓ Exacerbation and relieving factors
- ✓ Severity –

HISTORY TAKING

- 2) 4Ds

✓ **D1**: Disease

 – Previous similar attacks :including Dx

and Mx

– Past medical \ surgical history

✓ **D2** : Drugs

– For the current disease.

– Any other drugs \Herbs

– Allergy

– Addiction

✓ **D3** : Diet

– Appetite

– Any specific diet

– Current weight and significant changes

– Certain diseases

– Hydration whole patient medicine

✓ **D4** : Dokhan (smoking)

– Alcohol consumption

– Marital status

– Level of education ,Job

Financial status

Insurance

Psychological status

 Sexual history and genetics

Life cycle (teenage until menopause)

HISTORY TAKING

- 3) Patient centered medicine:

✓ ABC :

-Anxiety

-Beliefs

-Concerns

✓ FEFI :
-Function
-Expectation (cause of the problem AND management)
-Feelings
-Ideas

Why is the patient coming today ?
(an essential question in each consultation)

PHYSICAL EXAMINATION

- General appearance ; mouth breathing , paleness , jaundiced, distressed ……
- Vital signs (Temperature – Respiratory rate – Heart rate – Blood pressure)
- Focused physical examination :related to the DDx list

MANAGEMENT PLAN

- **RAPRIOP** acronym
- **R**eassurance and explanations
- **A**dvice (lifestyle)
- **P**rescription
- **R**eferral
- **I**nvestigation
- **O**bservation
- **P**revention (lifestyle modification , vaccination , screening)
- Patient-doctor interaction : explaining the DDx ; the cause , course and available management options , and sharing all these info with the patient
- Noting that all of the above is taking into consideration *patients concerns and worries* .

DIAGNOSIS

- – Identification of a condition, disease, disorder, or problem by systematic analysis of the background or history, examination of the signs or symptoms, evaluation of the research or test results, and investigation of the assumed or probable causes

- .– Effective prognosis is not possible without effective diagnosis

- – It should be remembered that a diagnosis is usually a statement of probability rather than certainty and often regarded as provisional until supported by the subsequent course of the case or the response to specific treatment.

DISEASE CENTERED DIAGNOSIS

Vs

Patient centered diagnosis

search for and identification of organic disease.

includes consideration of the patient's thoughts and feelings concerning the presenting complaints.

(ABC),(FEFI)

(A) Anxiety

(B) Beliefs

(C) Concerns

(F) Function

(E) Expectations

(F) Feelings

(I) Ideas

It is encouraged to consider diagnosis in whole-person terms, which include both patient centered and disease centered elements.

HOW TO REACH PATIENT CENTERED DIAGNOSIS?

- by helping patients feel understood through inquiry into patients' needs and expectations attending to the psychosocial context; and expanding patients' involvement in understanding their illnesses and in decisions that affect their health.

- Good communication skills, empathy and shared understanding may make the practice of medicine more patient centered

PATIENT CENTERED MEDICINE

- Emphasis on patient autonomy
- Shift from hospital care to community
- Increased attention to prevention and patient education
- Medical care costs
- The whole person medicine
- Enhancing doctor patient relationship
- Care of the family life cycle
- Search for the patient beliefs , ideas , concerns , expectation and effect of these
- Being interested and wanted to know , to be a good doctor you have to careabout people
- A good strategy is to listen and demonstrate empathy .

APPROPRIATE DIAGNOSTIC POSSIBILITIES
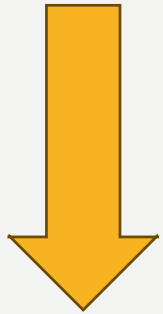
Probability   Seriousness   Treatability   Novelty

PROBABILITY

- the most important -> make an estimate of the likely cause, or causes, of the patient's symptoms.

- In any clinical circumstance the doctor must ask :"What is the most likely cause or causes of my patient symptoms?"

- It's further influenced by two inter-related factors:-

- The crude FREQUENCY of occurrence of the particular condition(s) suspected.

- - The complex interaction of patient and symptom variables and its effect on the previous point.

The probability diagnosis is based on the doctor's perspective and experience with regard to prevalence, incidence and the natural history of disease.
 - GPs acquire first-hand epidemiological knowledge about the patterns of illness apparent in individuals and in the community

SERIOUSNESS:

- Particular consideration should be given to the possibility that a life threatening or seriously incapacitating condition may be responsible for presenting symptoms.

- Given appropriate clinical presentation, such diagnostic possibility should merit inclusion even though disproportionate to their actual frequency of occurrence because of potentially catastrophic consequence due to delay in making diagnosis. i.e.: malignant melanoma

DIAGNOSTIC TRIADS FOR LIFE-THREATENING CONDITIONS

- *Examples:*
- DxT: fever + rigors + hypotension = septicaemia
- DxT: fever + vomiting + headache = meningitis
- DxT: fatigue + dizziness ± syncope = cardiac arrhythmia
- DxT: fever + drooling + stridor (child) = epiglottitis
- DxT: headache + vomiting + altered consciousness = subarachnoid haemorrhage (SAH)
- DxT: abdominal pain + amenorrhoea + abnormal vaginal bleeding = ectopic pregnancy
- DxT: fatigue + dyspnoea on exertion + dizziness = cardiomyopathy

TREATABILITY:

- The more amenable to treatment a potential underlying cause for presenting symptom is, the more likely it is to be included as a diagnostic possibility and the higher its ranking is likely to be.

- For example, hypothyroidism is an uncommon cause of tiredness but should not be overlooked as it can be easily corrected.

NOVELTY:

- – (especially if there is previous personal experience)
- – Very rare but memorable conditions are disproportionately to be included in a potential list of causes.
- – i.e: pheochromocytoma (usually suggested by students)
- – When faced with the practical problem of generating appropriate differential diagnosis, you should aim to produce a list with two distinct categories.
- *The first ->* contain most likely causes.(5)
- *The second ->* include the less likely but important to consider possibilities. (2)
- *Novelty* causes should feature rarely.

THE CONCEPT OF DIAGNOSTIC MODEL

- The diagnostic model for a presenting problem

- 1 What is the probability diagnosis?

- 2 What serious disorders must not be missed?

- 3 What conditions are often missed (the pitfalls)?

- 4 Could this patient have one of the 'masquerades' in medical practice?

- 5 Is this patient trying to tell me something else?
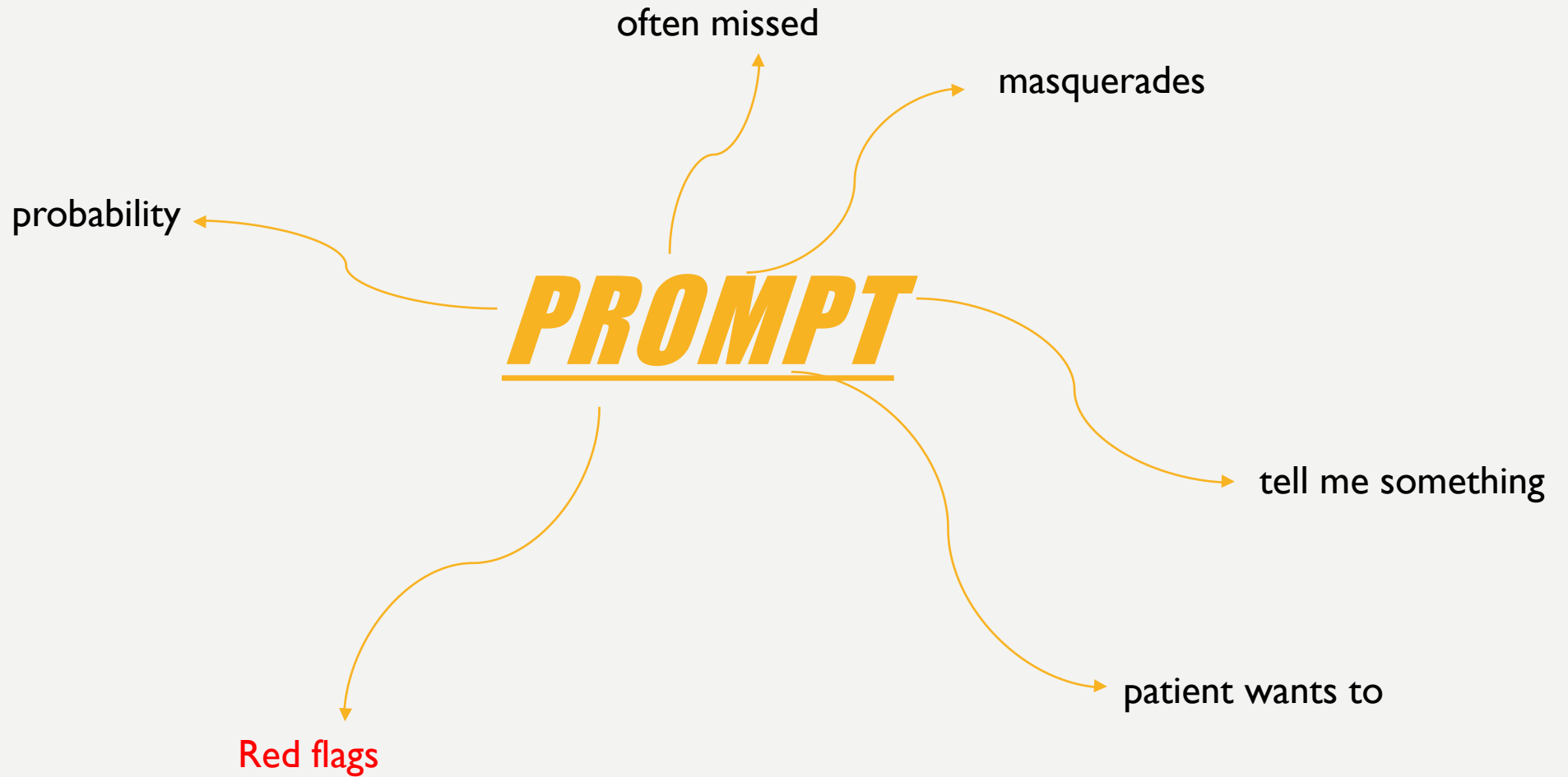
THINGS ARE NOT ALWAYS CUT AND DRIED

- **C** connective tissue disorders
- **U** UTIs, particularly in very old and very young
- **T** thyroid disease
- **D** depression
- **R** remember to rule out serious and rare causes
- **I** iatrogenic causes
- **E** emotional needs
- **D** diabetes

'PITFALLS'

- Abscess (hidden)
- Addison disease
- Allergies
- Candida infection
- Chronic fatigue syndrome
- Coeliac disease
- Domestic abuse, including child abuse
- Drugs
- Endometriosis
- Faecal impaction
- Foreign bodies

MASQUERADES

- 1 Depression

- 2 Diabetes mellitus

- 3 Drugs• iatrogenic • self-abuse — alcohol — narcotics — nicotine — others

- 4 Anaemia

- 5 Thyroid and other endocrine disorders • hyperthyroidism • hypothyroidism • Addison disease

- 6 Spinal dysfunction

- 7 Urinary tract infection (UTI)

IS THE PATIENT TRYING TO TELL ME SOMETHING ?

- **think of psychosocial problems**
- family problems/ life style / stress related issues ...

LOW BACK PAIN: DIAGNOSTIC STRATEGY MODEL Q

- Probability diagnosis A. Vertebral dysfunction especially facet joint and disc Musculoligamentous strain/sprain Spondylosis (degenerative OA)

- Q. Serious disorders not to be missed A. Cardiovascular: • ruptured aortic aneurysm • retroperitoneal haemorrhage (anticoagulants) Neoplasia: • myeloma • metastases Severe infections: • vertebral osteomyelitis • epidural abscess • septic discitis • tuberculosis • pelvic abscess/PID Osteoporotic compression fracture Cauda equina compression

- Q. Pitfalls (often missed) A. Spondyloarthropathies: • ankylosing spondylitis • reactive arthritis • psoriasis • bowel inflammation Sacroiliac dysfunction Spondylolisthesis Claudication: • vascular • neurogenic Paget disease Prostatitis Endometriosis

- Q. Seven masquerades checklist A. Depression Diabetes Drugs Anaemia Thyroid disorder Spinal dysfunction UTI

- Q. Is this patient trying to tell me something? A. Quite likely. Consider lifestyle, stress, work problems, malingering, conversion reaction

- Clarify presenting symptoms
- Checklists :
- can act as a trigger to the memory.
- can facilitate the generation of diagnostic possibilities which would otherwise not have been included.
- most useful of these checklists are the so called "surgical sieve" and the systems and anatomical approaches respectively.
- The anatomical approach is best suited to a consideration of presentations concerned with pain whereas the others are best used to tackle vague symptom presentations.

SOME PRACTICAL TIPS TO ASSIST IN GENERATING DX:

SURGICAL SIEVE
VITAMIN CDEF

- **V**: vascular
- **I**: infective/inflammatory
- **T**: traumatic
- **A**: autoimmune
- **M**: metabolic
- **I**: iatrogenic/idiopathic
- **N**: neoplastic
- **C**: congenital
- **D**: degenerative/developmental
- **E**: endocrine/environmental
- **F**: functional

KEEP IN MIND

- **UNCOMMON MANIFESTATIONS OF COMMON CONDITIONS ARE MORE COMMON THAN COMMON MANIFESTATIONS OF UNCOMMON DISEASES**

- **SIMPLE CONDITIONS ARE CAUSED BY SIMPLE PROBLEMS**

- **DIVERSE SYMPTOMS AND SIGNS ARE COMMONLY CAUSED BY A SINGLE DISEASE OR ENTITY**

- **IF ALL ELSE FAILS, REFER TO BOOKS, JOURNALS OR CONSULT COLLEAGUES.**

DIFFICULTIES THAT MEDICAL STUDENTS FACE IN MAKING DIAGNOSES :

- must usually diagnose what things are not rather than what they are, which require the ability to tolerate a higher degree of uncertainty than medical students can bear.

- Improper history taking and physical examination. > limited ability to perceive and interpret diagnostic problems irrespective of the clinical context, because the way their knowledge is structured in their memory is not geared for clinical practice.

- Poor communication

- Uncooperative patient

- Lack of experience

- Maintaining a focus on a particular diagnosis

SOME COMMON ERRORS :

- Unwarranted fixation on a hypothesis (focusing on a particular hypothesis, twisting all data in an attempt to fit it)

- Premature closure of hypothesis generation

- Rule out syndrome (consequence of poorly focused history taking)

- Generation of very unlikely hypothesis (novelties)

THANK YOU…