Incidental findings on investigations

......and how to manage them

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Incidental findings

Overview

- Defining terms
- Doctors & medicine
- How we react
- Moving forward
  - individuals
  - systems
  - organisations
Anjeline’s story
twists & turns in the care pathway

- Clinical case
  - history
    - knee pain
    - mobility 20 metres
  - examination
  - investigations
  - management
    - surgery....

- Investigation
  - indeterminate

weeks: 1 14 16 18 24 30
Incidental finding

defining terms....

- The range
  - unexpected positive findings
  - previously undiagnosed conditions discovered unintentionally
    - unrelated to condition being treated or for which tests are performed
  - deliberate search for variants not related to primary question
  - a sub-category of additional findings that are not actively sought
    - ‘un-solicited findings’
  - additional health-related data, unrelated to the question

The challenge of incidental findings
What defines a clinician?
the role specification

- Dealing with incomplete & imperfect information
- Managing complexity & uncertainty
- Dealing with risk
Being a doctor
understanding clinical reasoning

- You think you’re playing chess
- ...but you’re really playing
The incidental finding
declaration of interest.....

- The world as it was
- The world as it is.....
Medicine changes

……and so do our patients
Imaging
opening pandora’s box
Incidental findings detected on emergency abdominal CT scans: a 1-year review
Kelly ME, Heeney A, Redmond CE et al.
Abdominal Imaging 2015. 40: 1853-1857
Trauma imaging II
the REACT-2 study

High rates of clinically relevant incidental findings by total-body CT scanning in trauma patients; results of the REACT-2 trial
Treske K, Bos SA, Sierink JC et al.
European Radiology 2017. 27: 2541-2562

• 1083 enrolled across 5 trauma centres
• 541 randomised to TBCT; 542 to STWU

Incidental findings

<table>
<thead>
<tr>
<th>Incidental Findings</th>
<th>TBCT</th>
<th>STWU</th>
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<td>Major</td>
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<td>Moderate</td>
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<td>Minor</td>
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Adjusted ratio 2.85 (CI 1.337-6.077)
P< 0.007

Adjusted ratio 1.42 (CI 1.008-1.85)
P< 0.01

Adjusted ratio 1.536 (CI 1.238-1.905)
P< 0.001

• Incidental finding in 43% having TBCT
• 42% could cause serious harm
• 1:24 incidental findings a confirmed neoplasm

1083 enrolled across 5 trauma centres
541 randomised to TBCT; 542 to STWU

Incidental findings

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• Incidental finding in 43% having TBCT
• 42% could cause serious harm
• 1:24 incidental findings a confirmed neoplasm
The ethical dimension
incidental findings, medicine & society

- Do we have a robust & reliable framework?
- Do we know what patients want?
  - over-diagnosis
  - over-investigation
  - balancing ethical drivers
Sharing incidental findings
genetic medicine as a paradigm

ACMG recommendations 2013
‘Return data on a limited number of conditions & genes’

Genetic libertarians
‘Return comprehensive data’
• Patient has a right to know
• Return all data on known & unknown risk variants

Genetic empiricists
‘Only return data that is truly significant’
• Penetrance of most variants unknown
• Don’t create burden of ‘patient in waiting’
Incidental research findings
attitudes to searching & sharing genomics

Do you think genomic researchers should actively search for incidental findings that are not relevant to their research study?

No expectations to share incidental findings in genomic research
Middleton A, Morely KI, Bragin E et al.
Lancet 2015, 385: 1289-1290
The incidental finding
what determines how we react
The way forward
not holding back the tide, but managing it

- We are....where we are
  - nostalgia bias
- Managing in the new world
  - losses & gains
  - adapting
    - new systems
    - moderating the clinical approach
Rethinking incidental.....

incidental vs. unexpected

- **Linked but independent**
  - common risk factor
    - COPD & lung cancer
    - cardiovascular disease & T2DM
- **High prevalence comorbidities**
  - incidental.... but not unexpected
    - hyperparathyroidism
    - thyroid nodules
- **Incidental....& unpredictable**
  - unlooked for & unexpected
    - opportunistic diagnosis
Incidental findings
rethinking the classification
Replaying Bayes' theory
play with the cards you’re given.....

- The focus on post test probability
  - reasoning without pre-test probability
- Outcome determinants
  - test validity & performance
  - magnitude effect
  - potential pathology
    - clinical impact
    - early vs. premature diagnosis
Incidental findings
moving forward...managing the flow

- The role, function & specification
  - redefining the clinical problems
  - resetting clinical priorities
    - balance
    - inclusive processes
- Skills & attributes
  - individual
  - system
  - organisation
Anjeline’s story

twists & turns in the care pathway II

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weeks 1 14 16 18 24 30 36
Incidental findings

summary

- Terms
- Doctors & medicine
- Going forward

- Thanks
  - teachers & colleagues
  - RCP

Royal College of Physicians

Manchester Academic Health Science Centre

The University of Manchester

NHS
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