Pathology

- Between basic sciences and clinical practice
  - Study disease to better treat it

Pathologists

- Make diagnoses
- Manage tissue samples
- Perform additional tests
  - IHC, IF, molecular...
- Extract all relevant data from the sample
  - Diagnostic
  - Prognostic
  - Theranostic

What is pathology?

“Pathos”: disease
+ “Logos”: Reason or Study

Pathology is the study of disease

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Pathologists

- Are involved in all areas of medicine
- Essential to the clinical decision process
- Participate in multidisciplinary meetings in the context of oncology
  - No therapy is undertaken without a diagnosis!
- Essential for quality control of surgical and medical specialties
University level training / advanced technical training

Sub-specialization in many cases

Continuous education

This case is very difficult...

I agree, let's get some IHC and then show everybody.

Outside consultation?

Discussion with clinicians?

CC: https://tinyurl.com/yyyp2bybz

Public domain images from: https://pixabay.com; https://www.needpix.com
A Pathologist…

- Takes between 4 and 6 years to train
- After 5-6 years of medical school
- Between 9-12 years of study in the medical field
- Needs access to up-to-date bibliography
  - Quite expensive
- Needs to stay up-to-date in his area\areas
  - Tutorials
  - Courses
  - Conferences
  - Etc.
The Problem

We don’t see the patient

We don’t interact with the patient

The patient doesn’t see us at work

“Our report is our face”
Often bringing bad news
Nobody knows what it took to make it

“The clinician is our face”
Presenting our diagnosis, as “coming from the lab” or from “us” or omitting this information

Public domain images from: https://pixabay.com/; https://www.needpix.com
Your results are ready!
Hollywood is also a problem...

For Hollywood Pathologist = Forensic Pathologist

The Most Stylish!
Good arguments, but is anything published?

Public perception of histopathology

R D Start, C A Saul, D W K Cotton, N J Mathers, J C E Underwood
Introduction

• Perception amongst the public derived from TV
  • Pathologist = Forensic Pathologist

• Histopathology is not recognized

• Aimed at characterizing public perceptions objectively

Methods

• Postal questionnaire designed by histopathologists and general practitioners and a researcher

• 10 multiple answer questions

• A reminder letter was sent after 4 weeks

• Random population from the database of one general practitioner in the Sheffield area
  • 500 individuals
  • Aged between 18 and 64

• Pathologist was used as a synonym term for histopathologist

• Specific questions relating to necropsies were included
Results

- 323 responses were returned
  - 66% response rate
  - Response rate increased with age
    - 18-34 years: 51%
    - 35-49 years: 68%
    - 50-64 years: 79%

Most respondents:
- Knew pathologists were doctors
- Underestimated the duration of education (by half)
- Were unaware of the role of pathology in treating the living

Most respondents:
- Had knowledge limited to forensic pathology
- Got their information from popular media and television
- Most of those who were well informed had personal contact due to disease
## Results

**Table 1** Responses to items relating to the question “what is a pathologist?”

<table>
<thead>
<tr>
<th>Item</th>
<th>Question</th>
<th>Responses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Are pathologists policemen/policewomen?</td>
<td>Yes: 10 (3%) No: 255 (79%) Unsure/no answer: 58 (18%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>2</td>
<td>Are pathologists undertakers/funeral directors?</td>
<td>Yes: 3 (1%) No: 267 (83%) Unsure/no answer: 53 (16%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>3</td>
<td>Are pathologists medically qualified doctors?</td>
<td>Yes: 280 (87%) No: 21 (6%) Unsure/no answer: 22 (7%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>4</td>
<td>Are pathologists laboratory technicians with no medical training?</td>
<td>Yes: 23 (7%) No: 240 (74%) Unsure/no answer: 60 (19%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>5</td>
<td>Are pathologists qualified lawyers?</td>
<td>Yes: 3 (1%) No: 255 (79%) Unsure/no answer: 65 (20%)</td>
<td>323 (100%)</td>
</tr>
</tbody>
</table>
Results

Table 2  Responses to the question “how long is a pathologist’s training after leaving school?”

<table>
<thead>
<tr>
<th>Response</th>
<th>Number of responses</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>2 years</td>
<td>11</td>
<td>3%</td>
</tr>
<tr>
<td>5 years</td>
<td>175</td>
<td>54%</td>
</tr>
<tr>
<td>10 years</td>
<td>99</td>
<td>31%</td>
</tr>
<tr>
<td>15 years</td>
<td>15</td>
<td>5%</td>
</tr>
<tr>
<td>No answer</td>
<td>23</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td>323</td>
<td>100%</td>
</tr>
</tbody>
</table>
Table 3  Responses to items relating to the question “which of the following do you think are part of pathologists’ work?”

<table>
<thead>
<tr>
<th>Item</th>
<th>Responses</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Teaching medical students</td>
<td>Yes</td>
<td>250 (77%)</td>
<td>15 (5%)</td>
<td>58 (18%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>2  Teaching doctors</td>
<td>No</td>
<td>141 (44%)</td>
<td>58 (18%)</td>
<td>124 (38%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>3  Medical research</td>
<td>Unsure/ no answer</td>
<td>247 (77%)</td>
<td>20 (6%)</td>
<td>56 (17%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>4  Performing surgical operations</td>
<td>Total</td>
<td>43 (13%)</td>
<td>170 (53%)</td>
<td>110 (34%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>5  Diagnosing infections</td>
<td></td>
<td>140 (43%)</td>
<td>84 (26%)</td>
<td>99 (31%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>6  Examining blood samples</td>
<td></td>
<td>180 (56%)</td>
<td>65 (20%)</td>
<td>78 (24%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>7  Looking at routine x rays</td>
<td></td>
<td>55 (17%)</td>
<td>149 (46%)</td>
<td>119 (37%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>8  Supervising cremations or burials</td>
<td></td>
<td>18 (6%)</td>
<td>231 (72%)</td>
<td>74 (23%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>9  Giving evidence in court</td>
<td></td>
<td>267 (83%)</td>
<td>14 (4%)</td>
<td>42 (13%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>10 Looking after patients in hospital</td>
<td></td>
<td>21 (6%)</td>
<td>218 (68%)</td>
<td>84 (26%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>11 Finding out if people are dead</td>
<td></td>
<td>93 (29%)</td>
<td>160 (50%)</td>
<td>70 (22%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>12 Diagnosing cancer</td>
<td></td>
<td>94 (29%)</td>
<td>133 (41%)</td>
<td>96 (30%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>13 Helping doctors give the correct treatment</td>
<td></td>
<td>99 (31%)</td>
<td>126 (39%)</td>
<td>98 (30%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>14 Organising funerals</td>
<td></td>
<td>9 (3%)</td>
<td>255 (79%)</td>
<td>59 (18%)</td>
<td>323 (100%)</td>
</tr>
<tr>
<td>15 Making new drugs</td>
<td></td>
<td>42 (13%)</td>
<td>168 (52%)</td>
<td>113 (35%)</td>
<td>323 (100%)</td>
</tr>
</tbody>
</table>

European Society of Pathology
## Results

### Table 4  Responses to items relating to the question “where have you learned about what a pathologist does?”

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Number of respondents*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>210</td>
<td>65%</td>
</tr>
<tr>
<td>Books/magazines/newspapers</td>
<td>160</td>
<td>50%</td>
</tr>
<tr>
<td>Friends or relatives</td>
<td>71</td>
<td>22%</td>
</tr>
<tr>
<td>Personal experience</td>
<td>66</td>
<td>20%</td>
</tr>
<tr>
<td>General practitioner</td>
<td>6</td>
<td>2%</td>
</tr>
</tbody>
</table>

* Respondents could indicate more than one source if applicable.
Discussion / Conclusions

• “The histopathologist probably has the most extensive involvement with the largest number of patients, but with the least visibility and the least recognition”

• Cooperation between central and local institutions is fundamental to change the situation

• Open lab days, public lectures, school visits, exhibitions

• Curated content in TV and media
Discussion/Conclusions

- “Taking advantage of our few patient moments: fine needle aspiration cytology, for example

- The portrayal of pathology in the media is problematic

- The attitudes of clinicians are important in shaping public perception

- The way undergraduate curriculums are shaped is extremely important

- **Potential rewards**: increased levels of funding, benefits to research, training and diagnosis
• Does my pathologist have the best tools to make an adequate diagnosis?
• Is my pathologist overworked? Did he look at my case with enough time?
• Is the pathology lab state-of-the-art?
• Are they the best in the country?
• Are the diagnostic criteria they use up-to-date?
• Are they running all the molecular tests I need to get the best treatment available?
• Are young pathologists being trained properly?
• Are the pathologists who work here good?

But why should I care?

Patients are hard work! And take so much time

If they know who you are, they might sue you!

Let clinicians handle that! I’ll spend my time at the scope!

[Image: VideoPlasty, CC: https://tinyurl.com/y4vrq6u9]
The consequences

In the patients eyes

• Every pathologist is the same
• The quality of our work doesn’t matter
  • They don’t know it exists and can’t evaluate it
• Material conditions don’t matter
• Auxiliary tests don’t matter
• Quality of training of new pathologists doesn’t matter

Who has to know?

• Hospital administrations
• Our clinical colleagues

And if they don’t care?

• Disadvantage in negotiating with hospital administrations
• Acquiring new / better equipment
• Hiring new pathologists and lab technicians
• Everything else, particularly if financial resources are limited

Patient awareness and accountability lead to higher quality health care

MCCARTHY, DOUGLAS, KIMBERLY MUELLER, and JENNIFER WRENN. "Mayo Clinic: Multidisciplinary Teamwork, Physician-Led Governance, and Patient-Centered Culture Drive World-Class Health Care."
The consequences

• There is a worldwide shortage of pathologists
  • Some exceptions, like The Netherlands

• No child wants to “be a pathologist when I grow up”
  • Because they don’t know we exist
  • Or they misunderstand it

• Even medical students have misconceptions about the work of the pathologist
  • “Not really a doctor”
  • “Lab rat”
  • “Works with dead people and people parts”

• Oftentimes working conditions may not the best and salaries may be lower than other specialties
  • We can’t recruit the most talented medical student

Public misconceptions perpetuate the shortage of pathologists we see today

How to improve?

The bad news

• Starting from scratch
  • Huge lack of public perception
  • Many misconceptions

• It will take a very long time and a lot of dedication and our resources are limited

• Very little has changed in the last 25 years

The good news

• If you tell them about pathology, people want to know more

• We are more than ever involved in therapy decisions
  • Someone is bound to notice us sometime...

• There is a will to change public perceptions!


How to improve? A few ideas...

National and international pathology associations

• Promote the International Pathology Day to the general public

• Engage with patient advocate groups through social media, answer questions, participate and be there for them.
  • Promote the role of quality pathology in patient care!
  • Focus on dispelling the role of forensics in the area of pathology

• Take out ads online, on the radio, national television, etc. promoting pathology.
How to improve? A few ideas...

In our own departments

• Create flyers \ pamphlets \ posters explaining what pathology is
  • Place them in waiting rooms\clinicians’ offices.
  • Ask clinicians to hand out the flyers when a pathological examination is requested.

• Open a “pathology consultation” in your department
  • Engage with the public and explain their diseases

• Participate in the control of surgical quality of hospitals and publicize this role and its importance amongst patients.
A Brighter future for Pathology is in our hands!

Thank you for your time and attention!