Delusional Parasitosis

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Delusional Parasitosis

- 1-2 patients per Parasitology clinic
- Clinic appt 15-30 minutes
- Consultations > 45 minutes

What is Delusional Parasitosis?

A fixed, delusion of parasite infestation
Delusional Parasitosis

- Delusion: “Fixed unshakeable belief”
- Karl Schneider’s First Rank symptoms
  - Schizophrenia
- ICD-10* and DSM-IV*
- Ekbom Syndrome
  - Not to be confused with Willis-Ekbom Syndrome
- ‘Morgellons’

*International Statistical Classification of Disease and Related Health Problems

*Diagnostic and Statistical Manual of Psychiatry Disorders
History

- Sir Thomas Browne 1656
- George Thibierge 1894
  - Early detailed medical description
- Karl Axel Ekbom
  - Accounts 1937, 1938
- Episode of *The X-files* and *House*
- ‘Morgellons’
  - Mary Leitao, 2012
Delusional Parasitosis

- ‘Rare’ in psychiatry
- More common than previously thought in ID/ Dermatology/ GP
- ‘Delusional parasitosis’ can alienate patients – reluctance to accept psychiatric condition
- Responds to anti-psychotics
Diagnosis

- Important to exclude parasites and non-parasitic forms of itching:
  - Uraemia
  - Contact dermatitis
  - Thyroid disease, cancer, TB, diabetes
  - Other psychiatric disease e.g. schizophrenia, anxiety
  - Cocaine, methamphetamine, formication

- Cleaning/treatments may perpetuate itch-scratch making symptoms worse

- Itch-scratch vicious cycle

- Group delusion or *folie a deux*
  - Child protection

- The power of suggestion…do you feel itchy?
Diagnosis

- Itch, excoriations
- Fibres/ ‘bugs’ extracted from body/ hair
- The ‘matchbox’ or ‘specimen’ sign
  - Labelled, zip-lock bags, ‘too tiny to see’ or microscopic
- Distribution of signs
- Detailed letters to specialists
- Complaints
- Reluctance to see psychiatrist
- The influence of the Internet
Figure 1. Photographs of Other Patients with Delusional Parasitosis.
Panel A shows scars and erosions on the upper and lateral back of a patient with delusional parasitosis; the mid-back, which is more difficult to reach, is spared, suggesting that the lesions are excoriations rather than lesions caused by parasites. Panel B shows a closer view of the self-induced alteration; the linear erythematosus lesion has a central ulcer and a clean base, features consistent with neumonic excoriation. Panels C and D show extensive scarring associated with healed erosions and alterations in patients with delusional parasitosis.
‘Morgellons’

- Term from Thomas Browne essay
- 2002 Mary Leitao pulled fibres from son’s chin
  - “Like nothing else”, “red, blue, black”
- Lobbied CDC to investigate
- 10 year investigation:
  - CDC researchers issued the results of their multi-year study in January 2012, indicating that there were no disease organisms present in people with Morgellons, the fibers found consisted mainly of cellulose, which the CDC suggested were likely cotton and concluded that, in these respects, the condition was "similar to more commonly recognized conditions such as delusional infestation"
The Morgellons Mystery

A just-christened illness involves disorientation, multi-colored fibers bursting from sores, and the sensation of bugs crawling under the skin. Is this an age-old delusion or a disturbing new disease?

By Elizabeth Devito-Radburn, published on March 1, 2007 - last reviewed on June 5, 2012

One day in 2003, Mary Leitao plucked a fiber that looked like dandelion fluff from a sore under her 2-year-old son’s lip. Three pediatricians, three allergists, two dermatologists, and many misdiagnoses later, she realized she had a problem. Her toddler son, Drew, had developed more sores, with more fibers poking out of them. Sometimes the fibers were white,
Morgellons

Nonhealing skin lesion on a patient with Morgellons

Fiber-like material in a Morgellons skin lesion

www.somethingawful.com

“UMMM Excuse Me CDC
But My Baby Caught Morgellons From Your Rubella Vaccine…”

MY MORGELLONS IS REAL!!
Profile of the typical patient

- High-functioning
- May have well-paid job
- Only aspect of delusional belief, insight in other areas
- Female
- Middle-aged
- Also, elderly
- Social isolation
Background to Survey

- HTD sees ~8800 outpatients/year and ~2500 emergency ‘walk-in’ outpatients/year
- A proportion of those – ‘delusional parasitosis’
- ~15% of clinic appointments
- Department of Parasitology at HTD processes >10,000 specimens a year
- No data / catalogue of ‘delusional’ specimens
- No recorded catalogue in literature
- Case reports
- Department of Clinical Parasitology:
  - Tertiary referral of specimens
  - Specialist laboratory with expert microscopists and serologists
  - Unique collection of specimens
  - High comparative number of DP specimens to other labs
Aims and methods

- ‘A survey of Delusional Parasitosis specimens in an expert lab’
- The first attempt to catalogue such a database
- Specimens Jan 2014 to Apr 2015
- Query type of specimen
- Actual content of specimen
- Demographics of patient producing samples
- Data collection
- Using unique sample collection
- Photographic records of specimens
Procedure

What makes a ‘Delusional Parasitosis’ specimen?

- Unusual samples, unusual clinical history, no pathogenic parasites
- 2 experienced microscopists look at all specimens.
- Look at under the entomology microscope
- If there is anything that may be a parasite → look at under the usual light microscope:
  - If entomological will send to LSHTM
  - or Natural History Museum
- If skin is present, put it in KOH (same as for fungi) and look for mites
- If lab can ID what is present e.g. vegetable matter, fibres, they will.
- Specimens stored for one year
Results

- Total specimens 138
- Containers ranged from:
  - Universal containers
  - Match-boxes
  - Samples in saline: one in red wine
  - Multiple sealed zip-lock labelled bags from one patient
  - Jars
  - Bottles
  - Pill-bottles
Containers
Demographics

- 138 specimens
- 123 patients total
- 10 patients had multiple specimens
- 6 patients: multiple samples on different occasions
  - May have been multiple presentations to clinic
  - One patient sent samples directly to Dept. Parasitology
  - Cannot process with no HC provider
Where did specimens come from?

- UCH (Hospital number) – 84
  - Including A&E – 2
  - GP – 1
  - Hospital of Tropical Diseases clinic - 82
- Private clinic:
  - Two Tropical, One Dermatology – 5
- Dermatology – 1
- GP – 1
- Mortimer Market – 1
- External referral (other hospitals) – 44
  - Many with established large labs
External referrals

- Norwich
- HPA lab
- Queen’s, Birmingham
- Rotherham District General Hospital
- Bart’s
- PHE, Cambridge
- Frimley Park
- Royal Oldham
- Nottingham
- ‘Columbia’
- North Durham
- Birmingham Heartlands
- Withybush
- Princess Elizabeth Guernsey
- Watford
- Medway Maritime
- Charing Cross
- Letterkenny
- Swansea
- King’s College London
- North Staffordshire
- HCA (private) lab
- Moorfield’s Eye Hospital
- Kingston
- Royal Glamorgan
- Guy’s and St. Thomas’ NHS Trust
- Scarborough
- Sligo Regional Hospital
- Royal Free Hospital
- Great Western Hospital, Swindon
Demographics: Age

- Compare to typical age groups in literature/case-studies?
Sex distribution of patients providing specimens

- Male: 60%
- Female: 40%
What were specimens booked in as?

'Booking in' description of specimens

- 56% Material
- 31% ?worm
- 4% ?cestode segment/tapeworm
- 3% ?insect
- 1% Skin scraping/snip/swab
- 1% EDTA
- 1% Faeces
- 1% Tissue biopsy
- 1% Sellotape slide
- 1% No information
What did we find in samples?

- 138 specimens
- >1 type of content per specimen
- General comments:
  - ‘No parasites/ ova found’ - 59%
  - ‘Not a worm’ – 23%
  - Other descriptive comments
- 3 main types of contents/ fragments:
  - Human tissue/ man-made fibres (often co-existed)
  - Insect / worms – non pathogenic to humans
  - Vegetable and other plant matter
What did we find in specimens?

- Different types of debris co-existed in one specimen

What type of material/contents did we find in the specimens?

<table>
<thead>
<tr>
<th>Group of material</th>
<th>Number of samples containing these</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human tissue/synthetic fibres</td>
<td>75</td>
</tr>
<tr>
<td>Non-pathogenic insects/worms</td>
<td>18</td>
</tr>
<tr>
<td>Vegetable/plant matter</td>
<td>17</td>
</tr>
</tbody>
</table>
Human tissue and fibres

Mucus strands

Human hair
Human/synthetic matter

Hair, skin and fibres

Skin, hair, nails, fibres

Fibres
Skin fragments and hair

Human / synthetic matter

Hair, skin, fibres

Skin flakes
Human/ synthetic matter

Fibres

Faecal cast

Mucus cast

Blood-tinged fibrous cast
What did we find? : human tissue and synthetic fibres

Human tissue and synthetic fibres found in specimens

<table>
<thead>
<tr>
<th>Type of material</th>
<th>No. of specimens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hair</td>
<td>13</td>
</tr>
<tr>
<td>Skin</td>
<td>26</td>
</tr>
<tr>
<td>Fibres (synthetic)</td>
<td>25</td>
</tr>
<tr>
<td>Nails</td>
<td>1</td>
</tr>
<tr>
<td>Tissue</td>
<td>2</td>
</tr>
<tr>
<td>Mucus</td>
<td>6</td>
</tr>
<tr>
<td>Faecal casts</td>
<td>1</td>
</tr>
<tr>
<td>Miscellaneous debris</td>
<td>1</td>
</tr>
</tbody>
</table>

Bar chart showing the number of specimens containing various types of material.
Non-human pathogenic worms/insects

Earthworm

worm not a human pathogen. Sample too disintegrated to further identify.
Non-pathogenic worms/insects/organisms

Polychaete annelid worms

Leech

Free-living ciliates
Non-pathogenic worms / insects
What did we find? Non pathogenic worms & insects

- *Insects / larvae sent to London School Hygiene and Tropical Medicine for identification*

[Bar chart showing the number of specimens for different categories of insects and worms]
Vegetable matter
Vegetable/ other matter

Fungal hyphae
Vegetable / plant matter and other contents...

**Vegetable, plant and other matter**

<table>
<thead>
<tr>
<th>Category</th>
<th>No. of specimens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disintegrated sample</td>
<td>2</td>
</tr>
<tr>
<td>Seeds</td>
<td>2</td>
</tr>
<tr>
<td>Vegetable matter/leaves</td>
<td>12</td>
</tr>
<tr>
<td>Fungal hyphae</td>
<td>1</td>
</tr>
<tr>
<td>Incorrect specimen (masking tape)</td>
<td>1</td>
</tr>
</tbody>
</table>
Conclusions and future directions

- A ‘silent’ or under-estimated clinical problem
- Unique database of specimens
- Recommend tertiary referral of delusional parasitosis specimens to HTD Parasitology lab for identification
- Clinical survey of patients
Delusional Infestation

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Case 37-2014: A 35-Year-Old Woman with Suspected Mite Infestation

Scott R. Beach, M.D., Daniela Krohnsky, M.D., M.P.H., and Nicholas Kontos, M.D.

PRESENTATION OF CASE

Dr. Stephanie L. Gimona (Psychiatry): A 35-year-old woman was seen in the emergency department of this hospital because of a pruritic rash.

The patient had a history of hepatitis C virus (HCV) infection, acne, depression, and drug dependency. She had been in her usual health until 2 weeks before this presentation, when insomnia developed, which she attributed to her loss of a prescription for zolpidem. During the 10 days before this presentation, she reported seeing white "granular balls," which she thought were mites or larvae, emerging from and crawling on her skin, sheets, and clothing and in her feces, apartment, and car, as well as having an associated pruritic rash. She was seen by her physician, who referred her to a dermatologist for consideration of other possible causes of the persistent rash, such as porphyria cutanea tarda, which is associated with HCV infection.

Three days before this presentation, the patient ran out of doxycycline (for an
PRACTICE

PRACTICE POINTER

How to approach delusional infestation

Peter Lepping consultant psychiatrist; honorary professor, Markus Huber consultant psychiatrist, Roland W Freudenmann consultant psychiatrist; associate professor

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Delusional infestation (previously also known as delusional parasitosis or Ekhom’s syndrome) is a rare disorder, but it commonly poses disproportionate practical problems to healthcare systems. It is characterised by a patient’s fixed belief that his or her skin, body, or immediate environment is infested by small, living (or less often inanimate) pathogens despite the lack of any medical evidence for this. Delusional infestation is not necessarily a single disease or a single diagnostic entity. The classic form, primary delusional infestation, develops without any known cause or underlying illness and meets criteria for an immediate environment (room, house, car, etc.). Patients often spend hours each day examining the alleged pathogens and trying to catch them; if “successful,” they often take or send specimens of these pathogens to physicians or laboratories as proof of infestation. This phenomenon is called “the specimen sign.” It is not sufficient to diagnose delusional infestation, and case series report frequencies between 29% and 74%.” The search for the pathogen can absorb much of a patient’s time and puts a huge disease burden on patients and their families. Sometimes the delusional belief spreads to significant others as
Conclusions: clinical approach

- Difficult to manage in primary care
- Specialist review – Infectious Diseases, Dermatology
- Send specimens / refer
- Scabies! May treat empirically first
- Exclude parasites, drugs, metabolic, cancer and other causes of pruritis (itch)
- Resistance to psychiatric referral – but often respond to anti-psychotics
  - Term ‘Ekbom Syndrome’ preferred
  - “We haven’t been able to find an infectious agent, but I understand your symptoms are real”
- Psychodermatologist
Thank you for listening