Opportunistic infections of the digestive system

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Infectious disease pathology...

• lacks a methodical approach
• is most of the time ambiguous
• time consuming
• ... and anyway the task of microbiologists
To see
...microorganisms in their natural environment

... the chain of evidence from microorganism to disease
... To see the pattern of host response

with its distinctive message
... to make rapid diagnosis

where other methods are time consuming or not conclusive
The clue to successful infectious disease pathology:

To be an active member of the infectious disease team
• (1) To recognize typical infectious reaction patterns and to indicate the type of microorganisms most likely to cause them

• (2) To identify the organism, if necessary
## Patterns of host response

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<table>
<thead>
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<tbody>
<tr>
<td>(1)</td>
<td>Granulocytic</td>
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<td>(2)</td>
<td>Histiocytic</td>
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<td>(3)</td>
<td>Infarctoid</td>
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<td>Eosinophilic</td>
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<tr>
<td>(5)</td>
<td>„Non-specific“</td>
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- (1) Granulocytic (abscess-forming, phlegmonous or fistulating)
- (2) Histiocytic (granulomatous or diffuse)
- (3) Infarctoid (hemorrhagic-necrotic)
- (4) Eosinophilic
- (5) „Non-specific“ (lympho-plasmocytic or minimal)
Large, multicellular:

„of macrophage size“

„small round“:

bacteria:
Definition:

Any unusual infection favored by some form of immunodeficiency

- Microorganisms, that usually do not cause infection
- Infection by multiple organisms
- Unexpected host reaction
Candida albicans (tropicalis)
Candida glabrata
(Torulopsis)
Man, 71
chemotherapy for carcinaoma of the epipharynx
Day 4 of acute pancreatitis

Surgical debridement of necrotic material

„Mucormycosis“
Zygomycosis
Iron overload as a risk factor for zygomycosis?

- Patients on dialysis especially when treated with desferrioxamine
- Patients with hemochromatosis
male, 52

Blunt abdominal trauma with hemorrhage necessitating surgical packing of the abdomen with towels

on day 27: bleeding from a large gastric ulcer
IHC:
Rhizomucor
or Rhizopus
Man, 40
Ulcerative colitis?

South American Blastomycosis
Man, 35, HIV+

having traveled to Thailand
1.5 years earlier

Penicillium marneffei
In situ hybridisation for CMV
• Increasing incidence of late CMV infection in organ transplant recipients
w, 82
20 years after renal transplantation

Chronic diarrhea after change of immunosuppressive regimen
M, 67
12 years after renal transplantation

Recurrent episodes of jaundice after cholecystectomy
ulcerative colitis, steroid-resistant acute attack
Woman, 64, with CLL
ulcerative stomatitis
HSV-1
Fulminant hepatic failure in a pregnant woman of 28 years with leukaemia

(Case contributed by Dr Becheanu)
Adenovirus
Bacteria
Neutropenic enterocolitis

Necrotizing, right-sided enterocolitis in the setting of neutropenia

combined effect of antimitotic drugs, ischemia and infection
Phlegmonous gastritis.
Histiocytic reaction

Male, 25, with HIV infection, diarrhea and malabsorption

Pseudowhipple
Protozoa
„Coccidians“
Intestinal spore forming Protozoa

- Cryptosporidia
- Isospora
- Microsporidia
- Cyclospora
„Coccidians“
Small round organisms
Small intestine

Cryptosporidium parvum

Isospora belli

Microsporidia
Man, 53

Unexplained hepatosplenomegaly and fever

Visceral leishmaniasis
often related to HIV
serology unreliable in immunocompromised people!
Biopsy is gold standard for diagnosis

• **Two case reports on visceral leishmaniasis diagnosed in Romania.**

• [Gogoașe MG, Teodorescu I, Preda C, Ionescu SC.](#)
• 15 year old boy with unexplained severe growth retardation (bone age of 11 years)
Chronic Giardiasis favored by Hypogammaglobulinemia

Complete catch up of growth and development after treatment
Helminths
Strongyloides stercoralis

Small intestine, often asymptomatic

Endogenous cycle

„Hyperinfection“
Man, 50, having served in the Foreign Legion in Vietnam 30 years before
died 8 weeks after kidney transplantation of hemorrhagic pneumonia