Sample Received:	09/09/2004	*Lab Ref No:*	0404556
Date Of Report:	08/10/2004	*Patients DOB:*	13/07/1963
Practitioner Details:		*Patient Details:*	**Sample Report**

Comprehensive Parasitology, stool, x2

Bacteriology Culture

Beneficial flora		Imbalances		Dysbiotic flora
Bifidobacter	0+	Gamma strep	3+	
E. coli	1+	Enterobacter cloacae	2+	
Lactobacillus	2+	Bacillus sp.	1+	
		Klebsiella oxytoca	1+	
		Klebsiella ozaenae	1+	

Mycology (Yeast) Culture

Normal flora		Dysbiotic flora
Geotrichum species	1+	

PARASITOLOGY

	Sample 1	Sample 2
Mod	Blastocystis hominis	Blastocystis hominis
Rare	Yeast	Entaemoeba Histolitica
Few		Yeast

	Normal	Abnormal	Reference		Normal	Abnormal	Reference
Giardia Lamblia	Neg		Neg	Cryptosporidium	Neg		Neg

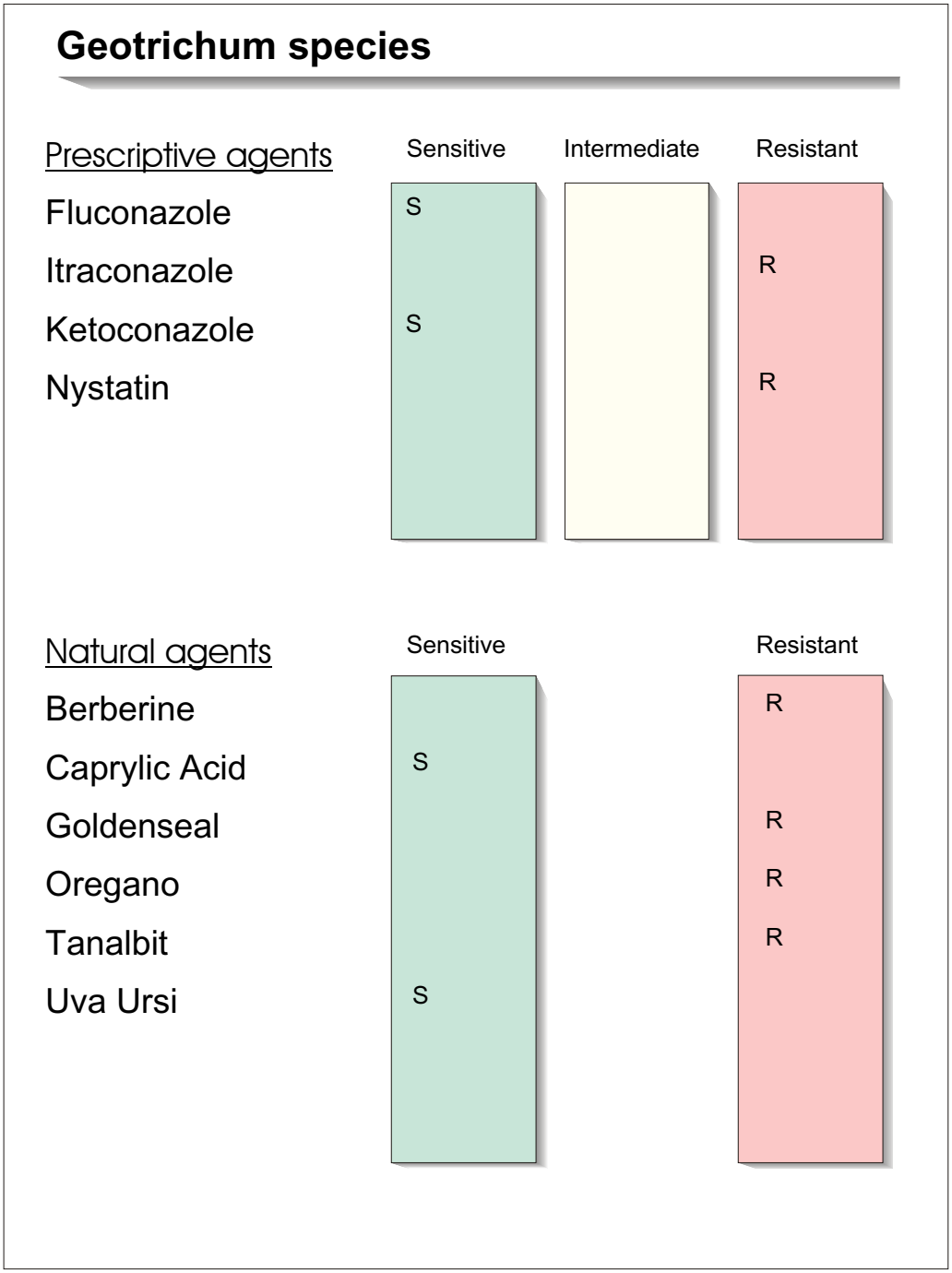
Comments:
Beneficial flora are normal inhabitants of the intestinal tract, and their presence in the amount of 3+ to 4+ is vital for proper metabolic function. Some of their responsibilities include aiding in digestion and vitamin synthesis, eliminating toxins, and preventing the formation of pro-carcinogens. Altered gut ecology resulting from imbalanced flora, dysbiotic flora, and yeast overgrowth may have far reaching effects. These organisms have repeatedly been associated with mild to moderate intestinal disorders, and have been linked to systemic and auto-immune disorders through the production of endotoxins and their role in creating altered intestinal permeability.
PARASITOLOGY: Intestinal parasites, usually transmitted through contaminated food and water sources, are never normal inhabitants of the intestinal tract. Intestinal parasites pose serious health risks to the elderly and immuno-compromised, and are also known causative agents of many intestinal disorders.

Date Collected: **9/25/2004**
Date Received: **9/30/2004**
Date Completed: **10/7/2004**

Comments:

YEAST SUSCEPTIBILITIES

Geotrichum species



Susceptibility testing for natural agents is intended for research or investigational use only.

PATHOGEN INTERPRETATION

Blastocystis hominis

BLASTOCYSTIS: Originally considered a yeast, but has been reclassified as an amoeba. Its pathogenicity has been controversial, but is now being strongly considered as a pathogen. Anaerobic, but contains hundreds of mitochondria devoid of enzymes. Has no cyst form. Mainly inhabits the cecum and colon. Common parasite showing up in ~15% of patients.

Epidemiology: Probable fecal/oral spread, including contaminated food and water. More common in crowded living conditions, malnutrition, poor hygiene. Greater prevalence in tropical countries than the UK. Some transmission via immigrants from other countries, but not enough to reflect the overall incidence. Infection has been associated with travel. Much remains to be learned about the epidemiology.

Symptoms May be asymptomatic. May cause mild to moderate diarrhea or constipation, colicky abdominal pain, gas, nausea, vomiting, and fever. Has been associated with reactive arthritis, as well as chronic fatigue or other symptoms more commonly seen in Candida Related Complex, e.g. sleeplessness, inability to work, lassitude, dizziness. Occasional pruritis. Blood, mucus, or WBC's may occasionally be isolated from the stool.

Treatments: Treatment controversial. Metronidazole (Flagyl) or iodoquinol have been reported to be effective. Emetine, furazolidone, trimethoprim-sulfamethoxazole, and pentamidine have been used. Tetracycline has been given to remove bacteria essential to B. hominis survival. Entero-vioform is highly effective, but banned in U.S. due to neuropathies. Various herbs may be effective, including oil of oregano.

Comments: A weakened intestinal mucosa may predispose individuals to suffer the harmful effects of B. hominis. B. hominis is a significant problem in AIDS and other immunosuppressed patients. Fatal infections have been encountered in monkeys. Requires the presence of bacteria for optimal growth. Difficult to rid of (7 different stages). Botanicals usually not strong enough.

PATHOGEN INTERPRETATION

ENTAMOEBA HISTOLYTICA

PATHOGEN: Amoeba. The only amoeba considered to be a pathogen, though some strains are non-pathogenic. Can be detected microscopically with our concentrate and trichrome stain exams.

EPIDEMIOLOGY Cosmopolitan distribution, though more common in warm climates. High prevalence in Mexico, China, and SE Asia. Transmission by ingestion of cyst stage, usually through contaminated food or water. (Acutely ill patients are not important, since they pass the noninfective trophozoite.) Person to person transmission is also possible, via fecal/oral route. Food handlers represent a significant risk, and are often asymptomatic carriers. Dog to human transmission is possible. Cysts are sensitive to chlorine, so are unlikely to be transmitted through adequately treated drinking water. Rarely affects children. Three times more common in males than females. Most common in poor urban populations.

SYMPTOMS: Resides in the lumen of colon and cecum. Asymptomatic in about 90% of patients. Symptoms of invasive amoebiasis develop gradually, reflecting invasion and ulceration of the intestinal mucosa, and are of two types, depending on location.
In the recto-sigmoid area: dysentery with bloody mucous stools, colicky pain, and tenesmus. Colon: diarrhea with possible bloody stools. Fever and systemic manifestations are rare. Three forms of more severe intestinal invasive amoebiasis include fulminating colitis (may resemble U.C.), amoebaean of the colon, and amoebic appendicitis. Extraintestinal locations include liver, lung, brain, skin, and other tissues. Liver abscess is the most common. (Only 9% of these patients also have colitis/38% have no GI Sx) Liver function tests are often normal. Possible nausea and vomiting. Possible non-productive cough. Abscesses may rupture. May be confused with diverticulitis or U.C. (though UC shows more WBC's, and amoebic colitis more RBCs). Depends upon certain bacteria for its survival. Optimum growth occurs at pH 7. Possible correlation between E. histolytica and viral infectious hepatitis in missionaries abroad. CHO diet, injured mucosa, stasis, and bacterial flora all contribute to its pathogenicity. Most E. histolytica do not produce disease because are unable to adhere to colonic epithelial cells. Is an important cause of bloody diarrhoea in AIDS patients. Serologic tests may be helpful (positive in > 90%).

TREATMENTS: Asymptomatic carriers should be treated in order to avoid spread. For asymptomatic patients: Iodoquinol or Paromomycin. Symptomatic: Metronidazole or Dehydroemetine. Hepatic abscess: Metronidazole. Diodoquin has been given with Metronidazole or Paromomycin in some cases. Chloroquin has been used for hepatic abscess. Natural substances include berberine, grapefruit seed extract, Sacchromyces boulardii, quassia, curcumin.