

Dientamoeba fragilis

Introduction

D. fragilis is an amoeba-flagellate with a cosmopolitan distribution. The life cycle is not known.

Morphology

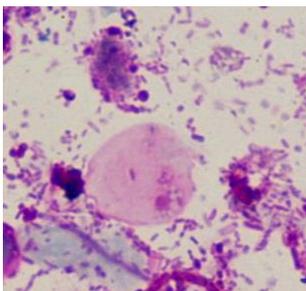
D. fragilis is relatively small, varying from 3 - 22 microns in diameter and there can be considerable variation in size among organisms in the same specimen. The organism has only a trophozoite stage and in a permanently stained preparation, one, two or rarely three nuclei can be seen, two being the most common. The nuclear chromatin is usually fragmented into three to five granules but these have not been visualised by Giemsa Stain, and there is normally no peripheral chromatin on the nuclear membrane. The cytoplasm is usually vacuolated and may contain ingested debris as well as some large uniform granules. The cytoplasm can also appear uniform and clean with a few inclusions. *D. fragilis* lives in the lumen of the caecum and upper colon.

Pathogenesis

This is a controversial area. The organism has been reported in association with mucous diarrhoea¹, abdominal pain and tenderness. Nausea, vomiting and low-grade fever have also been reported in a number of cases. The precise role of this organism as a cause of disease remains to be determined.

Laboratory Diagnosis

Diagnosis is dependent on examination of the fresh direct wet preparation or permanently stained smears prepared from unformed or formed stools with mucus. It is particularly important that permanent stained smears of stool preparations should be examined, because survival times of the organism in terms of morphology, is very limited and specimens must be examined immediately or preserved in a suitable fixative as soon as possible after defaecation. The recommended stains are Fields' and Giemsa. The trophozoite is destroyed in a formol-ether concentrate.



A trophozoite of *Dientamoeba fragilis* stained with Giemsa.

