Evidence for the presence of a resistant form in *Pentatrichomonas hominis* (Davaine, 1860) Wenrich, 1931 (Trichomonadida: Trichomonadidae)

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Resumen: Se dan algunas evidencias de que *Pentatrichomonas hominis*, un protozoo intestinal cuya trasmisión no es fácilmente explicable, presenta alguna forma de resistencia. Las pruebas indican que el parásito pudo ser aislado por cultivo de muestras tratadas con jugo gástrico natural hasta por 120 horas o mantenidas en refrigeración por 17 días. Puesto que los trofozoitos no pueden resistir tales condiciones, existe la posibilidad de un quiste o seudoquiste.
Key words: *Pentatrichomonas*, intestinal flagellates, human parasites.

Most of the intestinal flagellates have a cystic form as the infective evolutive stage. *Dientamoeba fragilis*, a Trichomonadidae family member (Camp *et al.* 1974) does not have a cyst but is probably transmitted by helminth eggs (Yang & Scholten 1977). In *P. hominis* the presenceof any resistant form has not been demonstrated. However, this form has been found in other trichomonads such as *Trichomitus batrachorum*, *T. sanguisugae* (Brugerolle 1973) and *Tritrichomonas muris*. In the latter, Mattern & Daniel (1980) described a pseudocyst form and Chinchilla *et al.* (1987), more recently, have reported a cystic form. Considering these findings we pursued studies attempting to demonstrate any evidence of the presence of a resistant form in *P. hominis*.

Twofecal samples with *P. hominis* trophozoites were kept at 4°C for 48 hrs. and then treated with 0.5%, 1% HCL, or human fresh gastric juice (NGJ) for 30, 60 and 120 min. After this treatment, the samples were cultured in Dobell and Laidlaw modified medium. As shown in table 1, samples treated with NGJ gave positive results in cultures; this means that trichomonad forms survived even after a 120 min. contact with gastric fluid.

Experiments were performed to study the joint effect of storage and NGJ treatment. Samples with *P. hominis* were kept at 4°C for several days and then treated with gastric fluid for 30, 60 and 120 min. To check for the presence of parasites, samples were cultured for 24 and 48 hours.

As shown in table 2, organims were recovered from one sample kept at 4°C for 17 days. Also, parasites maintained in refrigeration for up to 120 hrs. were able to resist NGJ for 30, 60 and 120 min. These findings indicate that *P. hominis* has some kind of resistant form, since trophozoites can not survive under the conditions employed.

We think in a cystic form rather than the pseudocyst described for *T. muris* (cited) since the single membrane of this form is probably as weak as is the trophozoite membrane. In the case of *T. muris* where similar resistance has been demonstrated, the cystic form already found could be responsible for that resistance.

Efforts to demonstrate cysts by staining methods have not been successful but, from the biological point of view, there is strong evidence for the presence of cystic form in *P. hominis*.

TABLE 1

Survival of P. hominis *to 0.5 % and 1 % HCL, or natural gastric juice (NGJ) treatment, after previous storage at 4 °C*

Contact time (min.)	Treatment HCL 0.5 %	HCL 1%	NGJ
30	–	–	+ *
60	–	–	+
120	–	–	+

* Presence of *P. hominis* trophozoites in the culture medium

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TABLE 2

Survival time of P. hominis *in samples kept at 4 °C and treated with natural gastric juice (NGJ)*

Contact time at 4oC (hrs or days)	NGJ Treatment							
	Sample No. 1				Sample No. 2			
	0'	30'	60'	120'	0'	30'	60'	120'
0 h	+	+	+	+	+	+	+	+
24 h	+	+	+	+	+	+	+	+
48 h	+	+	+	+	+	+	+	+
72 h	+	+	+	+	+	+	+	+
120 h	+	+	+	+	+	+	+	+
170 h	+	-	-	-	-	-	-	-
9 d	+	-	-	-	-	-	-	-
11 d	+	-	-	-	-	-	-	-
13 d	+	-	-	-	-			
15 d	-	-	-	-	-			
17 d	+	-	-					
19 d	-	-	-	-				

* Presence of *P. hominis* trophozoites in the culture medium

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