

SPONTANEOUS FORMATION OF ROSETTES BY AUTOLOGOUS HUMAN  
MONOCYTE-MACROPHAGES AND LYMPHOCYTES IN CELL  
CULTURES

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During study on cell cultures from total human blood leukocytes, we found a rosette-shaped cell association formed by monocytes and lymphocytes. Considering the immunologic roles of these two cell types, we decided to study such cell association, the results being reported here together with data on the frequency of their occurrence in cell cultures of human leukocytes of healthy subjects, at different culture times.

Total leukocytes were obtained from blood of healthy human donors (9 women, 8 men; mean age 34, range 20-62). Venous blood was drained into syringes previously treated with phenol-free heparin. The plasma containing the white cells were seeded in TC 199 medium plus penicilin-streptomycin.

Samples of cultures were prepared at 48 and 96 hours by slight shaking of the respective flask. The cells were centrifugated at 200 g for 10 minutes and the supernatant was discarded. The cell pellet was gently resuspended in drops of TC 199 medium. Drops of this cytopreparation were put on glass slides for 5 min in a humidified chamber, and then dessicated by centrifugation on a disk perpendicular to the axis of the centrifuge, as previously described<sup>1</sup>. The cytopreparations were stained with May Grünwald-Giemsa, and observed at a light microscope, at 400 x. In considering that the monocytes were found singly and centrally located in the rosettes we have described, the

quantification of the rosettes was made as the percentage of monocytes forming rosettes, by studying 50 of such cells in each case. A rosette was considered when three or more lymphocytes surrounded a monocyte.

In all cases we observed the presence of rosettes formed by monocyte/lymphocytes. Their mean number was 5.2 (SD 3), at 48 hs, and 8% (SD 4.2) at 96 hs with respect to the total of monocyte-macrophages<sup>2,3</sup> counted in the cytopreparations. Figures 1 and 2 show aspects of these rosettes. The central cell was always a monocyte surrounded by small lymphocytes. The nucleus of the monocyte was typical in some of these rosettes (Fig. 1) and in others it presented features that suggest cell conversion to macrophages (Fig. 2).

The results show the appearance of rosette formation by cultured monocyte-macrophages and lymphocytes obtained from circulating blood. To our knowledge, this is the first report on the occurrence of this phenomenon with such cells from peripheral blood. We think that the preparation of the co-cultured cells for their observation in the way we described has permitted the phenomenon to be found.

These spontaneously-formed rosettes appear as a *selective* cell-cell association. In fact, although the total leukocytes from each donor were seeded in the flask culture, the rosettes were produced only among monocyte-ma-

rophages and lymphocytes. It is obviously a phenomenon produced at the cells' membrane level and, perhaps, related to the antigen presentation. We think of interest to elucidate this aspect in further work.

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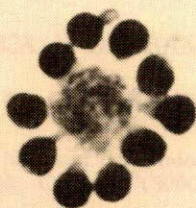


Fig 1

FIGURE 1: Rosette formed by a monocyte surrounded by small lymphocytes. Human total leukocytes culture. 48 hours. Stain: May grönwald-Giemsa. 400 x.

La ascitis pancreática es la consecuencia de una perforación de la pared de pseudocistas o de los pancreáticos, que produce un derrame de un exudado rico en linfocitos y amilasa, cuyo hallazgo confirma el diagnóstico.

Se presenta un caso de ascitis pancreática con derrame pleural derecho en un paciente de 40 años etilista, sin episodios pancreáticos agudos previos, con ascitis peritoneal de peso, dolor abdominal, derrame pleural derecho, amilasa y lipasa aumentadas, líquido ascítico serohemorrágico, con 36 g/l de amilasa y amilasa con valores superiores a 1024 UD. La TAC confirmó la ascitis, el derrame pleural y demostró un pseudocisto en la cabeza del páncreas de 24 mm y otro de 72 mm en la cola. El tratamiento surgió por medio de un drenaje de los quistes peritoneales. Los pseudocistos se tratan quirúrgicamente: cistogastrostomía, transgastrostomía, pancolectomía, o con resección y suturas gastroplásticas.

**Palabra clave:** Ascitis pancreática, derrame pleural, pseudocisto, amilasa.

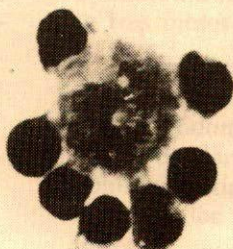


Fig 2

FIGURE 2: Rosette formed by a monocyte-macrophage surrounded by small lymphocytes. Note the nuclear shape of the macrophage. Human total leukocytes culture. 96 hours. Stain: May Grünwald-Giemsa. 800 x.

**INTRODUCCION**

La ascitis pancreática es la consecuencia de la acumulación de líquido en la cavidad peritoneal, rico en amilasa, producto de un pseudocisto o conductos pancreáticos.

Es importante su conocimiento porque puede ser una causa de complicaciones de la pancreatitis crónica.<sup>1,2</sup>

**PRESENTACION DEL CASO**

Paciente masculino de 40 años, etilista crónico, que consulta por pérdida de 12 kg de peso, distensión abdominal, dolor abdominal difuso (que por momentos se localiza en epigastrio e irradia a hipocostado izquierdo) de intensidad leve a moderada, presentándose luego de la ingesta de alimentos y cediendo espontáneamente o con analgésicos comunes en forma parcial; asimismo náuseas, vómitos biliares oliváceos, diarrea en decúbito supino. Los episodios anteriores comenzaron a manifestarse progresivamente en los últimos años de la laboración.

Al examen físico desnutrido, peso 60 kg, talla 1,70 m, se palpaba un abdomen blando sin megabombas, sin ruidos hidroaélicos, sin ascitis, sin derrame pleural derecho y de leve ascitis en el extremo superior izquierdo.

**Laboratorio:** Se hallaron los siguientes datos: hemoglobina: 124 mg/dl, hematocrito: 38%, leucocitos: 11,900/ml (VN: 58% neutrófilos, 38% linfocitos, 4% eosinófilos, 0% basófilos), albúmina: 4.1 g/dl, amilasa: 1024 UD, lipasa: 264 U/L, amilasa urinaria: 11.9, APP: 41%,