the strain on local services in biochemistry. Such cheese-
needing for diabetics on insulin.

It is also not apparent why, when one item on a non-
chargeable H.c.10 is disallowed, essentials such as insulin
are also subject to withholding of payment to the pharmacist
concerned. What a petty and bureaucratic outlook.

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B-LYMPHOCYTE NATURE OF HAIRY CELLS
IN HAIRY-CELL LEUKÆMIA

Sr,—There is a great deal of controversy about the
nature and origin of the “ hairy cell ” in hairy-cell leukaemia
(leukæmic reticuloendotheliosis). Some investigators
present evidence that the hairy cells are lymphocytes,1-7
while other workers contend that the hairy cells are mono-
cytic or histiocytic cells,8,9

Morphologically, by both light and transmission electron
microscopy, the cells differ from typical lymphocytes
and monocytes, but some characteristics of both these cell
types may be seen. Cytochemically, hairy cells often
contain tartrate-resistant acid-phosphatase activity,10 which
is not present in other haematopoietic cells but has been
demonstrated in atypical lymphocytes in cases of infectious mononucleosis, but this tartrate-resistant enzyme activity
has not been seen in monocytes or histiocytes.11 α-naphthyl-
aacetate esterase activity which is present in monocytes and
histiocytes,12 however, has been demonstrated in hairy
cells of hairy-cell leukaemia.13

Evidence supporting the lymphocytic nature of the hairy
cell has included the demonstration of surface immuno-
globulin as well as other functional studies indicating a
B-cell origin of the hairy cell.1-3,5,4 On the other hand,
reports favouring the hairy cells belonging to the mono-
cytic/histiocytic series have included the demonstration of
the receptor for cytophilic antibody of monocytes on the
hairy cells and the absence of the antigen-antibody comple-
ment receptor of B lymphocytes.6 Additional support for
the non-lymphoid nature of the hairy cell has come from the
demonstration of the ability of the hairy cell to phago-
cytose latex particles and bacteria in vitro.14

We have had the opportunity to study by scanning electron microscopy cells from the spleens of 3 patients with
hairy-cell leukaemia. On histological sections and by
transmission electron microscopy, the normal structure of
the red pulp of the massively enlarged spleens was
almost completely replaced by a proliferation of typical hairy cells. Separated cells from the spleen as well as
sections of spleen prepared by the method of critical
do point drying and examined by scanning electron microscopy revealed that most of the cells had the appearance of
lymphocytes, namely of B lymphocytes (see accompanying
figure), as described by Polliaik et al.15 The surfaces of
most of the hairy cells were covered by long slender villous
processes. By scanning electron microscopy, the hairy cells
did not have the appearance of monocytes.

The reasons for the discrepancies among different
studies concerning the nature of the hairy cell are not
known. It has been proposed that the hairy cell is a primi-
tive “ reticulum cell ” which can undergo lymphocytic or
histiocytic differentiation.16 The varied responses of hairy
cells in different cases or in the same case of hairy-cell
leukæmia to immunological, functional, and cytochemical
tests may be explained by the differences in degree or
direction of differentiation of the hairy cells.

Our morphological scanning electron microscopic study
of 3 cases of hairy-cell leukæmia lends support to those
investigators who advocate the B-lymphocyte nature of the
hairy cell.

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