results in excellent morphological preservation of small volumes of platelets. A key advantage of the procedure is the insurance against sample loss by completing all procedural steps before embedding in the same tube. The cells are manipulated minimally and the entire platelet film can be embedded.

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References


Technical methods


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Letters to the Editor

Correlation between automated cytochemical staining (Hemalog-D) and visual microscopy monocyte counts

The Hemalog-D differential cell counter measures individual cell size, cell peroxidase and esterase activities, and cell staining with alcian blue. From these results, differential white blood cell counts are obtained on blood samples.1-8 A series of alarm signals indicates the presence of cells which the machine is unable to classify, for example, monocytes with low esterase activity. If such alarm signals are activated, then it is necessary to examine a Romanowsky-stained film from that particular blood sample. In the absence of alarm signals, the correlation between differential counts by routine microscopy and the Hemalog-D machine is satisfactory, except with regard to the monocyte counts.4-5 We have tried to define more accurately those Hemalog-D differential counts that do not require visual checks.

Differential white blood cell counts were obtained from examination of 200 cells counted in wedge-shaped blood films stained with May-Grünwald-Giemsa and were compared with the corresponding differential counts read from the Hemalog-D.

As recommended,4 all results with total leucocyte counts greater than 20 × 10⁹/l or less than 5 × 10⁹/l; large unstained cell (LUC) values greater than 2.5%; high peroxidase (HPX) values greater than 2.5%; positive low peroxidase (LPX) and positive low rate (LR) were excluded from this study. Only those differential counts were included which gave a remainder signal but no other alarm signals on the Hemalog-D. The remainder signal was considered to be abnormal when it exceeded ± 5.

As our results show, with a positive remainder less than 5, a poor monocyte count correlation (r = 0.412; n = 76) was obtained. In 91 cases with a remainder greater than 5, the monocyte count was greater by visual microscopy than by Hemalog-D (Table 1). The correlation was poor (r = 0.182) but could be improved if the remainder was added to the Hemalog-D monocyte count (Table 2). With a negative remainder less than - 5 there was reasonable correlation (r = 0.613), but with a remainder between - 5 and - 10 and with less than 10 monocytes by visual microscopy, the Hemalog-D monocyte count was greater than the visual monocyte count (Table 1). The results could be reconciled if the remainder was subtracted from the Hemalog-D monocyte count (Table 2). With a remainder greater than - 5, and with
visual monocyte counts greater than 10, good correlation was obtained (Table 1).

A positive remainder in the Hemalog-D can be due to monocytes with low esterase activity not identified as monocytes in the esterase channel, mistaken identification of monocytes with high peroxidase activity as other cells, or the mistaken identification of neutrophils with high esterase activity as monocytes. A negative remainder in the Hemalog-D can be due to excess cells being mistakenly identified by the machine as monocytes in the esterase channel, or mistaken identification of monocytes as eosinophils or neutrophils in the peroxidase channel.

Accordingly, from our results, we think that the machine monocyte count could be adjusted to approach the visual count when the remainder was greater than ±5 (with white blood cell counts between 5 and 20 × 10⁹/L and no other alarm signals) by adding the machine remainder to the machine monocyte count, and the machine monocyte count could similarly be adjusted when the remainder was greater than −5 and less than −10 (with visual monocyte count less than 10), if the machine remainder was subtracted from the Hemalog-D monocyte count.

Thus simple addition or subtraction of remainders of less than ±10 expanded to a range of differential counts which could be accepted from the Hemalog-D without subsequent visual microscopy of blood films.

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References


A human strain of Campylobacter fetus subsp. intestinalis grown at 42°C

Drs Smibert and Greavenitez (May issue, page 509) question the reliability of tests for growth at 42°C for distinguishing Campylobacter fetus subsp. intestinalis from C. fetus subsp. jejuni. During the past two years or so we have tested some 1000 campylobacter isolates from both man and animals, and we agree that the ability to grow at 25°C is the more reliable characteristic for this purpose; most campylobacters of the jejuni group fail to grow at 30°C, let alone 25°C. However, nalidixic acid resistance is not confined to subspecies intestinalis and fetus (venerealis); some jejuni strains are also resistant (no
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