THE EFFECT OF BRASSICA OLERACEA VAR. CAPITATA EXTRACT ON LEUCOCYTE COUNT AND PERCENT HEMATOCRIT VALUES

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PURPOSE:
The antitumoral effect and blood parameters of Brassica oleracea var. acephala was described earlier(1,2). In this work the in vivo effect of the extract isolated from of Brassica oleracea var. capitata on the leucocyte count and hematocrite values of Mus musculus balb/c mice is studied.

MATERIALS AND METHODS:
Isolation of the active extract is summarized in fig 1 (3,4).
Leucocyte count: The tail of rats were cut at the end and 0.5 ml blood was withdrawn in to leucocyte pipette. 2 % acetic acid was added and leucocytes were counted under microscope.
Hemotocrite values are determined using hemotocrite centrifuge.

RESULTS:
The in vivo effect of extract on leucocyte count is seen in Table 1. The leucocyte count was increased upon administration of the extract each day for 10 days at 200 mg/0.5 ml serum physiologic concentration intra peritonally (fig 2). It had no effect on hematocrite % values (fig 3).

Table 1. The in vivo effect of Brassica oleracea var. capitata extract on leucocyte count and % Htc values.

<table>
<thead>
<tr>
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<th>Leucocyte x10^3/ mm^3</th>
<th>Htc%</th>
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<tbody>
<tr>
<td></td>
<td>Beginning 10 th day</td>
<td></td>
</tr>
<tr>
<td>Normal+SP</td>
<td>9.10±1.00</td>
<td>46.28±1.30</td>
</tr>
<tr>
<td>Normal+Extract</td>
<td>9.30±0.50</td>
<td>45.40±1.90</td>
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Fig 1. Isolation procedure of the biologically active extract from *B. oleracea* var. *capitata*

- *B. oleracea* var. *capitata* leaves (cabbage, 50 Kg)
  - blender
  - petroleum ether extraction (1:2 v/v)
    - top phase
    - bottom phase
  - 2x ethyl ether extraction (1:2 v/v)
    - top phase
    - bottom phase
  - ppt. with 96% ethanol (1:2 v/v)
    - ppt.
    - supernatant
    - lyophilization
    - concentrate (20 g)
  - "Al₂O₃" (neutral) column chromatography
    - 96% ethanol elution
    - active extract
    - acetone ppt.
  - supernatant
    - ppt.
    - (active extract - As)

**DISCUSSION:**

As we reported earlier the leaves showed antitumora activity. Tumors induced on I increased the γ- globulin f effect hematocrite % and h work *B. oleracea* var. *cap* in vivo, but had no effect. This made us think that this ex
Illy active extract from B. La

Fig 2: The in vivo effect of B. oleracea var. capitata extract on leucocyte counts of rats

Fig 3: The in vivo effect of B. oleracea var. capitata extract on Htc % values

DISCUSSION:

As we reported earlier the extract of Brassica oleracea var. acephala leaves showed antitumoral activity both on Ehrlich ascites solid and liquid tumors induced on Mus musculus balb/c mice(1,2). This extract increased the γ-globulin fraction(5) and leucocyte count, but had no effect hematocrite % and hemoglobin values(6,7). As shown with this work B. oleracea var. capitata extract has increased leucocyte count in vivo, but had no effect on Hematocrite % values. These results made us think that this extract might be effective immunologically.
REFERENCES


4- Baytop, T. Türkiye'de bitkilerle tedavi. İstanbul Üniversitesi yayını, 3255 Eczacılık Fakültesi yayını 40, İstanbul 1984.


ABSTRACT

The effects of Clematis vit maritimum L., Melissa officinalis L., Istanbul, Turkey, on the fibrinolytic in this work.

Key words

Clematis vitalba, Equisetum officinalis, Typha domingensis, E plate.

INTRODUCTIO

The inhibitory effect of an system, has been shown in in vi The fibrinolytic effect of acephala has been also examine: Our aim in this work is t have an effect on the fibrinolytic

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