Subfraction of *Pterodon pubescens* Seeds Oil Induces Apoptosis of Leukemic Cells by Inducing Apaf Gene Expression.

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Pterodon pubescens is a Brazilian plant known as “Sucupira branca”, which its seeds extract is popularly used to treat rheumatoid arthritis. Anti-inflammatory, analgesic and anti-arthritic effects had been demonstrated to its seeds oil (OPp), as inhibition of leukemic cells proliferation. OPp fractioning resulted in a bioactive hexanic subfraction (SF5). In this work, we evaluated the SF5 action on sensitive and resistant human leukemic cells apoptosis and studied its effects on the apaf-1 mRNA expression. Viable Jurkat cells treated with SF5 (20 µg/mL) for 24 h (MTT assay), was lower (13 $\pm$ 9.9%, $p<0,01$) than that of K562 (93.2 $\pm$ 3.8%). SF5 (20 µg/mL) treatment for 36 h increased ($p < 0,05$) the Jurkat apoptotic cells (reduced size-flow cytometry) from 10.2 $\pm$ 2.3% (control) to 36.8 $\pm$ 4.4%, while it did not induced ($p > 0,05$) K562 to apoptosis, showing 3.3 $\pm$ 1,7% for non-treated cells and 4.6 $\pm$ 0,3% for treated ones. On the other hand, SF5 (50 µg/mL) also induced K562 to apoptosis (13.32%, $p<0,05$). Metrotrexate (20 µg/mL), used as a positive control drug, induced ($p<0,01$) both cells to apoptosis. SF5 also induced apaf-1 mRNA expression (RT-PCR) in K562 cells. This work shows that the Jurkat cell line is more sensitive than the myeloid leukemic K562 cells to SF5 cytotoxicity, that the last cell line was also sensitive to SF5 effects, and that the apoptosis induced by SF5 seems to be mediated by the mitochondrial mechanism since it increased the apaf-1 mRNA level. Financial support: FAPERJ, CAPES, CNPq, UERJ.