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PAPER TITLE ADAPTIVE RESPONSE FOR RADIATION-INDUCED CHROMOSOMAL ABERRATIONS ON PORTUGUESE URANIUM MINERS WORKERS

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ABSTRACT (See instructions overleaf)

Several studies show that small doses of ionising radiation induce an adaptive response to subsequent high doses. As we are doing cytogenetic studies of people working on Portuguese uranium mines for biomonitoring purposes, we use this opportunity to know if that people were more or less adapted to subsequent ionising radiation doses.

For these studies we address the following's questions:

First, can the dose received by miners, function like a prime dose for an adaptive response when they have a subsequent high exposition dose and this equal or different for low or high exposed individuals.

Second, what is the capacity for adaptive response of lymphocytes from miners when they are primed with a low dose of 5 cGy and exposed at a challenge dose of 300 cGy.

Two groups of miners workers were selected on the base of their historical monitoring doses, one as low exposed and another as high exposed and a control group.

Our observations show the ability of peripheral lymphocytes of the two groups of miners to display adaptive response after induction with a small dose of 5 cGy on G1 and a challenge dose of 300 cGy. The group low exposed present more cases with adaptive responses.

We saw also on some miners workers, that the frequency of chromosomal type aberrations after 5 cGy is less than background. If this is confirmed with more cases it means some kind of adaptation to small doses that we do not saw on the control group.