Background:

Experimental pleurodesis studies comparing different concentrations of iodopovidone are limited to few studies and no studies concerned the histopathological changes in the thyroid tissue. The objective of this experimental study was to investigate the safety and efficacy of different doses of iodopovidone for pleurodesis, and to evaluate the histopathological changes in thyroid tissue.

Methods:

Thirty-eight rats were divided into four groups. Groups 1, 2, and 3 were given 2 mL/kg iodopovidone, at concentrations of 1%, 2%, 4% respectively, group 4 was given saline intrapleurally. The surfaces were graded by macroscopic and microscopic examination at day 30 and thyroid tissue was examined.

Results:

Iodopovidone at concentrations 2%, and 4% developed significantly more adhesions and inflammatory response. 4% iodopovidone produced microscopic changes in the contralateral visceral pleural surface which is not significant. Vacuolization in thyroid tissue showing hyperthyroidism wasn't seen in any groups.

Conclusions:

We propose that 2% iodopovidone is enough for an effective and safe pleurodesis, however in unsuccessful cases the concentration of iodopovidone may be raised to 4%. However as the study was conducted on rats it's not certain that the same results might be obtained on human.