



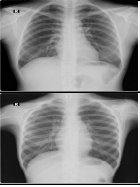












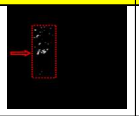
TABLE II  
NUMBER OF OBJECTS INFILTRATE AND WIDTH OF INFILTRATE OBJECT

Image Name	The Original Image	Infiltrate Image Result	Number of Infiltrates		The Number of Pixels Infiltrates		Width of Infiltrate Object (mm <sup>2</sup> )		Width of Infiltrate on the whole lungs (mm <sup>2</sup> )
			Right Lung	Left Lung	Right Lung	Left Lung	Paru Kanan	Paru Kiri	
Citra_S1.jpg			0	0	0	0	0.00	0.00	0.00
Citra_S2.jpg			0	0	0	0	0.00	0.00	0.00

2) Tuberculosis patient

Number of Infiltrate Objects contained on right lung was 36 spots, while no infiltrates object in the left lung. Of the 36 spots the obtained results in a pixel number of 6614 pixels. Based on the provisions the tools used computed radiography, one pixel is 0.2 mm. To the extent one pixel<sup>2</sup> = 0.2 mm x 0.2 mm, so that one pixel<sup>2</sup> value is equal to 0.04 mm<sup>2</sup>. From these provisions, it can produce the same calculations as Table 3.

TABLE III  
NUMBER OF OBJECTS INFILTRATE AND WIDTH OF INFILTRATE OBJECT

Image Name	The Original Image	Infiltrate Image Result	Number of Infiltrates		The Number of Pixels Infiltrates		Width of Infiltrate Object (mm <sup>2</sup> )		Width of Infiltrate on the whole lungs (mm <sup>2</sup> )
			Right Lung	Left Lung	Right Lung	Left Lung	Paru Kanan	Paru Kiri	
Citra1.jpg			36	0	6614	0	264.56	0.00	264.56

IV. CONCLUSIONS

Based on the examination to the built algorithm it can be generalized that the infiltrate object extraction in x-ray thorax image using morphology method and region feature analysis produced a clear infiltrate object image. The position of infiltrate gets by pulmonary expert match the position of infiltrate from the algorithm implementation. In the case of healthy patient, from 2 test image, the algorithm implementation result matched the analysis of the pulmonary expert – there is no infiltrate in x-ray thorax image. In the test of 40 x-ray thorax images of tuberculosis patient where the position of the infiltrate of 10 images is already decided before the extraction process and 30 more after the extraction process, the position of the infiltrate decided by the expert matched with the position of the infiltrate of the algorithm implementation. Based on the infiltrate object result that has been extracted, the amount of the infiltrate of the test image of each lungs can be counted, then the amount of pixels and size of the infiltrate object can be known.

ACKNOWLEDGMENT

The author wish to acknowledge Putra Indonesia University for the financial support of this research.

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