

Compare the Return on Investment of pulsed field ablation with conventional thermal ablation for treatment of atrial fibrillation in China

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OBJECTIVES

To calculate the return-on-investment (ROI) for pulsed field ablation as compared with conventional thermal ablation for treatment of atrial fibrillation.

METHODS

Ablation cost and health resource use data were collected from two tier-three hospitals in China. Diagnosis Related Group (DRG) payments for percutaneous cardiac ablation with atrial fibrillation were collected from government published data for different regions in China. Ablation durations were collected from published literature. Costs and revenues for pulsed field, radiofrequency and cryo-balloon ablation were calculated from hospital payer perspective. ROI was measured by taking the difference between revenue and cost and dividing by ablation cost. Revenue takes both DRG payment and profit gained by shortened ablation duration into account.

RESULTS

The ROIs for the pulsed field ablation, radiofrequency ablation and cryo-balloon ablation respectively averaged 45.16%, 38.81% and 40.46% across 8 cities over China.

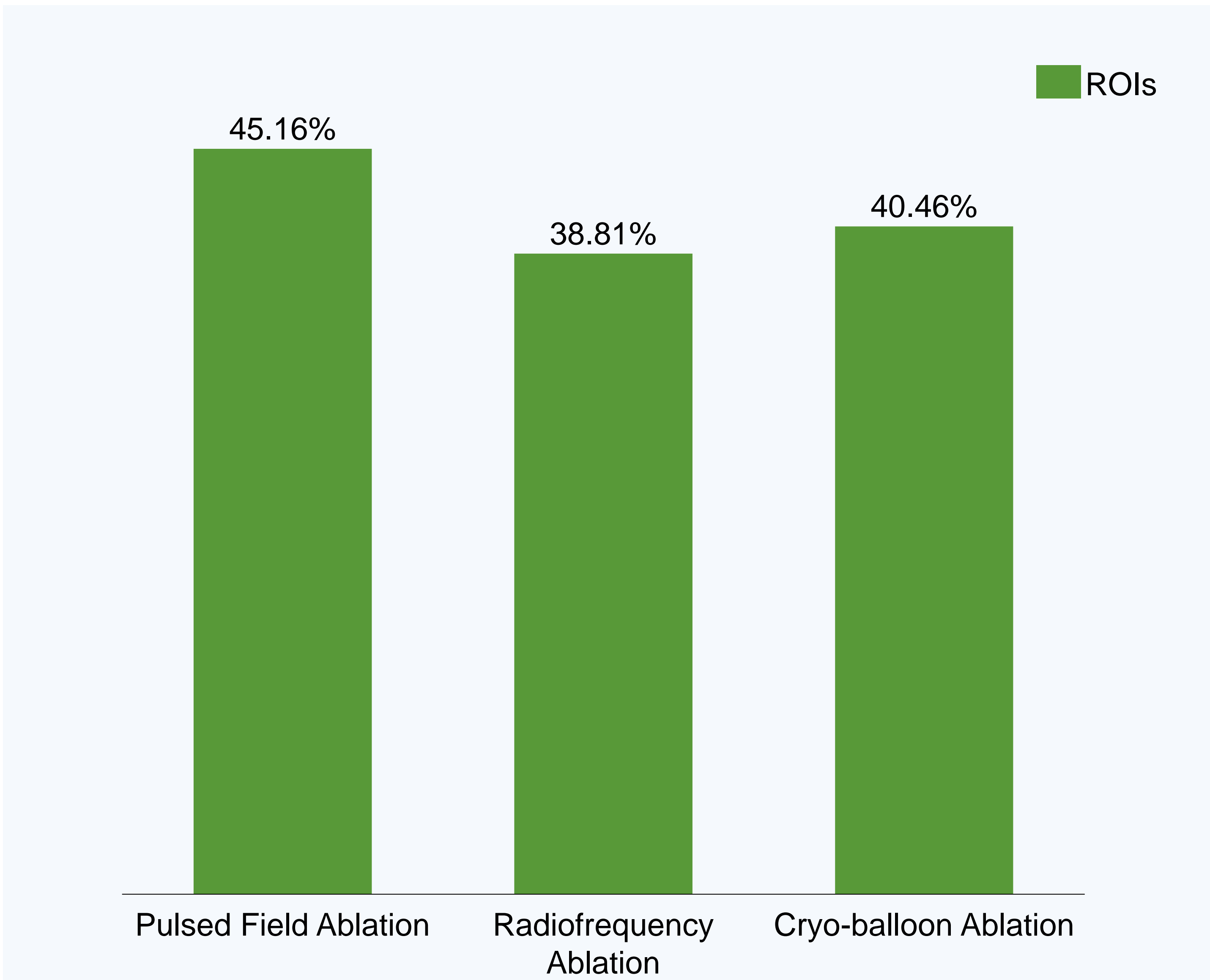


Figure 1 Comparison of Return on Investment Among Three Ablation Techniques in Chinese Cities

In other word, the time saving by shifting from radiofrequency to pulsed filed ablation could bring extra benefit ranging between ¥ 2749 to ¥ 4431 (mean: ¥ 3397, SD: ¥ 511) per case of atrial fibrillation treatment to hospital, while the time saving by shifting from cryo-balloon to pulsed filed ablation could bring extra benefit ranging between ¥ 2037 to ¥ 3283 (mean: ¥ 2517, SD: ¥ 379) per case to hospital.

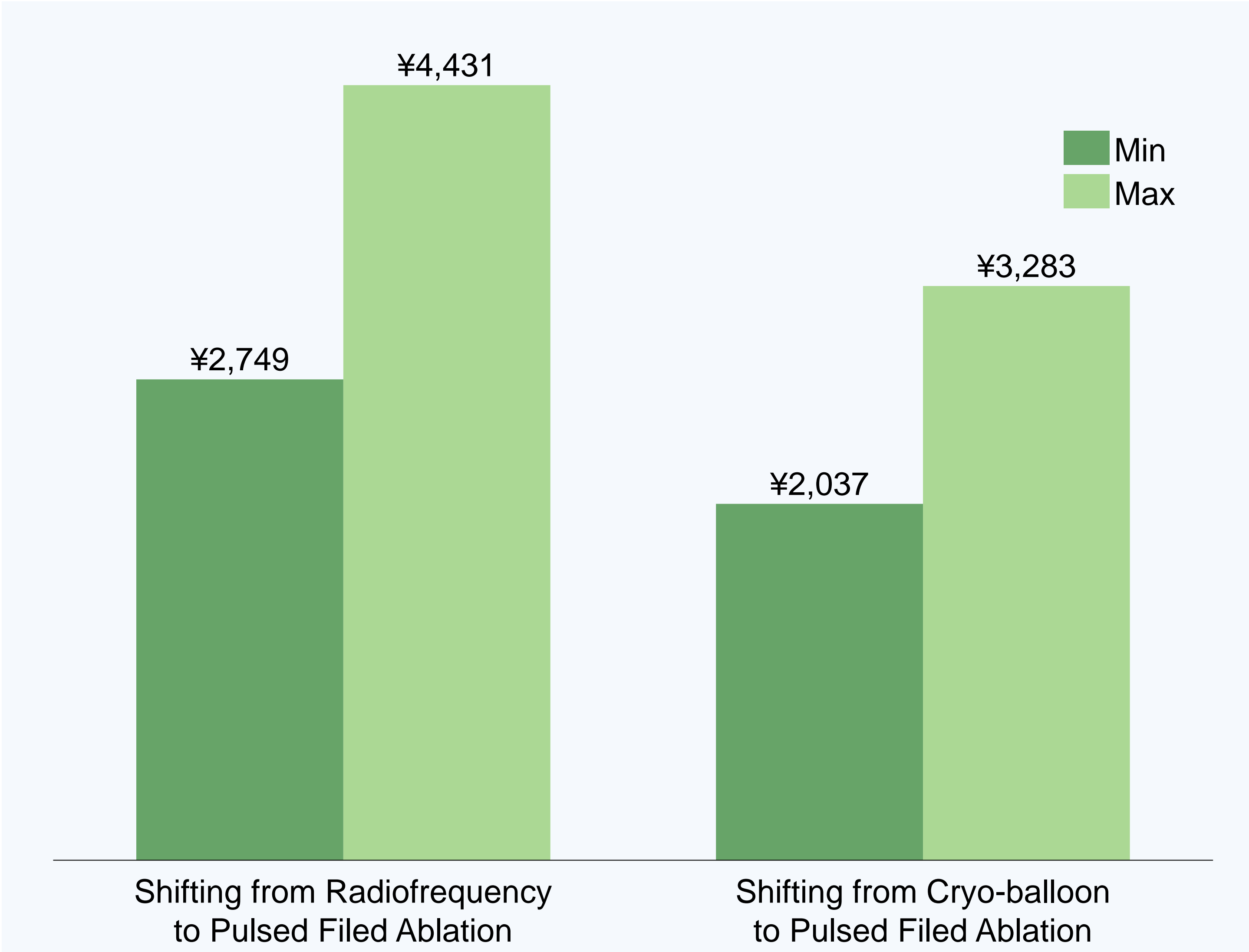


Figure 2 Economic Benefits from Time Saving by Shifting from Radiofrequency/Cryo-balloon to Pulsed Filed Ablation (min and max)

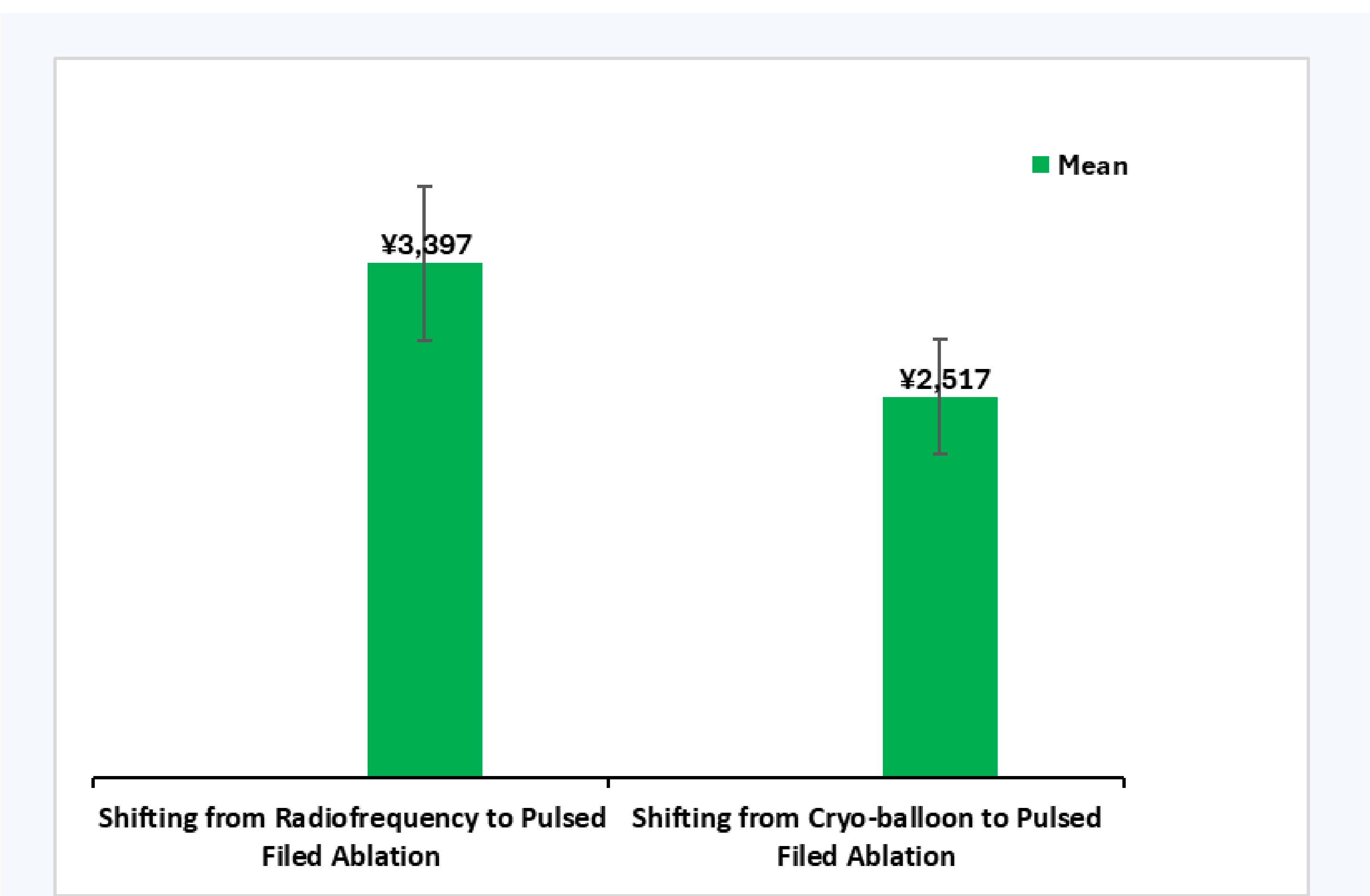


Figure 3 Economic Benefits from Time Saving by Shifting from Radiofrequency/Cryo-balloon to Pulsed Filed Ablation (mean and SD)

CONCLUSIONS

Pulsed field ablation could bring extra financial benefits for treatment of atrial fibrillation by demonstrated shortened ablation duration comparing with conventional thermal ablation.