CONCLUSIONS: In the present study, there were no significant differences regarding the effects on the progression of CVC between lanthanum carbonate and calcium carbonate. We speculated that arterial plaque formation might be associated with the progression of CVC rather than mineral bone disorder. Further investigations are needed to elucidate the detailed mechanisms.

![CVC score](image)

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**SP548 COMPARISON OF THE EFFECTS OF LANTHANUM CARBONATE AND CALCIUM CARBONATE ON THE PROGRESSION OF VALVULAR CALCIFICATION AFTER INITIATION OF MAINTENANCE HEMODIALYSIS**

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**INTRODUCTION AND AIMS:** There are many studies which showed the effects of phosphate binders on the progression of vascular calcification. We have recently reported that lanthanum carbonate, a non-calcium-containing phosphate binder has a less effect on the progression of coronary artery calcification compared to calcium carbonate, a calcium-containing phosphate binder. It is generally thought that mineral disorder such as hypercalcemia and/or hyperphosphatemia have an influence on not only vascular calcification but also cardiac valvular calcification (CVC); however, there is only a few previous studies regarding the effects of phosphate binders on CVC after initiation of maintenance hemodialysis. The aim of the present study was to compare the effects of lanthanum carbonate with those of calcium carbonate on the progression of CVC in patients who initiated maintenance hemodialysis.

**METHODS:** This study is a post hoc analysis of our previous randomized controlled trial. Fifty patients who were hospitalized and started hemodialysis between December 2011 and July 2014 at our hospital were included in the present study. They were divided into the two groups; the lanthanum carbonate group (LC group, n=24), the calcium carbonate group (CC group, n=26). CVC were assessed by transthoracic echocardiography at baseline and 18 months after initiation of hemodialysis. We defined the presence of CVC as the presence of bright echoes of more than 1 mm on any valve cusps or mitral annulus, and semiquantitatively evaluated the severity of CVC as the CVC score (CVCS) by counting and calculating the number of calcified valve cusps and mitral annular calcification (0-6 points) as evaluated in our previous paper (Kitamura K, et al. Heart Vessels. 2017;32:1109-1116). We compared the CVC score and its progression between the two groups.

**RESULTS:** There were no significant differences in serum calcium levels, phosphorus levels, and CVC score at baseline between the two groups. At 18 months after initiation of hemodialysis, serum calcium levels were tended to be higher in the CC group than in the LC group. Serum phosphorus and parathyroid hormone levels were similar between the two groups. There were no significant differences in the CVC score at 18 months and changes in the CVC score from baseline to 18 months after initiation of hemodialysis between the two groups. At 18 months, CVC score was significantly correlated with plaque score of carotid artery (PS) (r=0.388, p<0.01) and serum albumin levels (r=-0.369, p<0.05). Multivariate analysis including serum albumin, C-reactive protein, calcium, phosphorus, and PS revealed that CVC score was significantly and independently correlated with PS (p<0.05) and serum albumin levels (p<0.001).

![CVC score](image)