Congenital Cystic Adenomatoid Malformation (CCAM) is a rare cystic lung disease, which probably results from an embryologic insult, and seems to involve maldevelopment of terminal bronchiolar structure. One or more cystic lung lesions formed at the viviparous term often compress the remainder of the ipsilateral lung, which may be hypoplastic as result. It frequently causes a mediastinum shift with compression of the heart and/or the contralateral lung. To survive the neonatal period, symptomatic neonates with this lesion often require surgeries. The anesthetic management of neonates with CCAM is so challenging, because of preexisting respiratory insufficiency, cardiovascular instability and possible associated anomalies. The danger of "ball valve" effect of the affected lobe and the hypoplastic remainder lobe make intermittent positive-pressure ventilation relative contraindication until the lesion is excised.

As far as we explored, there are few reports of anesthetic management of patients with CCAM in the neonatal periods. Here we present our anesthetic managements of four neonates with CCAM to establish adequate anesthetic strategies for them. In every 4 cases, we preserved spontaneous respiration with minimal assisted ventilation until the affected lobe was isolated with the balloon catheter. To place the balloon tip at the affected lobe, we used bronchofiberscope in 2 cases, and X-ray diaphanoscopy in others.