The functional preservation of healthy mucosa and bone has been emphasized in relation to endoscopic management of sinonasal diseases since many decades. With the advent of endoscopic revisit to the middle ear anatomy and better understanding of the ventilation pathways of middle ear cleft, recent trend emphasis has been seen to be laid upon the maximum preservation of the functioning middle ear cleft structures. The original study conducted was to know the essence of reestablishment of the ventilation pathways for better surgical outcome of tympanomastoid diseases by minimally invasive endoscopic transcanal approach with particular reference to mucosal disease involving middle ear cleft. The prospective study has been conducted over a period of 9 years from 2009 in the medical colleges of Assam and non-government Institutions of Jorhat, Assam. HRCT (high resolution computed tomography) scans of temporal bone and a set sequence of interventions and reconstruction as required were part of the protocol based management by endoscopic transcanal approach. Significant improvement of postoperative quality of life in the majority of such patients, with lowered perioperative morbidity with added advantage of better cosmesis was seen. The extent of unwanted and avoidable drilling of the mastoid cortex could be significantly lowered. Functional results in terms of postoperative hearing was found to be improved with closure of AB gap to the extent of 30 db in majority of patients. Despite the technical demand of therapeutic intervention for delicate middle ear sound conducting mechanism by the transcanal endoscopic approach, it has been seen to stand the test of time as a technique of minimally invasive surgical approach. The functional preservation of the middle ear mucosa and reestablishment of the ventilation pathways are the key to successful outcome in the management of mucosal disease of the middle ear cleft.