Departmental Seminar	
Seminar Title	: GLI1 plays a key role in patient prognosis and induces stemness in oral cancer
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Venue	: LS Seminar Hall
Date and Time	: 04 Apr 2025 (10:30 AM)
Abstract	: Gli1 is a downstream transcriptional factor of Sonic hedgehog pathway in mammalians, and has been recognized as a proliferative indicator of carcinogenesis. However, its actual role in patient prognosis and cancer stemness in oral cancer remains unclear. Therefore, we carried out an analysis to understand the association between Gli1 expression and clinical prognosis in oral cancer patients. Expression of GL11 was found to be significantly higher in oral cancer patient tissues compared to matched normal tissues. Furthermore, high expression of GL11 was positively correlated with poor survival among oral cancer patients. Interestingly, in vitro, qPCR and Western Blot analysis showed that, GL11 expression (both at protein and mRNA level) was the highest in OAC-1 (OCT-4 activating compound) treated oral cancer (FaDu and SCC-9 cell lines) spheroids in comparison to GL12 and GL13. The transcript level of stemness related genes including OCT-1, SOX-2, NANOG and SMO was also found to be higher along with elevated GL11 expression in OAC-1 treated spheroids compared to monolayer cells. However, the ongoing investigation is currently focussed on the role of GL11 on migration and survival of oral cancer cells by overexpressing and knocking down GL11 in oral cancer cells. The findings of the study highlight the key role played by GL11 in cancer stemness and warrants further investigation to use it as a therapeutic target in oral cancer as well as other cancer types.