AbstractID:9611Title:Cl inicalimplemen tationofOBIan dCB CTus ingIMPA CMos aiq R&V system

Purpose: Thisreportliststh enec essarystepst oinst all,com mission,andim plemento n-boardi maging(OBI),andconebeamCT (CBCT)inadepartmentwit haLINACandacompeting -vendorinformat ionsystem.

Methodand Materials: Th eVarianTril ogyis am ulti-useLI NAC.Thisworkwillconcentrat eonth enewtr eatmentcont rolmodul e (4DTC).The4DCTseq uencesthetreatme ntfi elds,controloftheMLCandt heint erfacetoboththeOBIcomputerandt heCBCT reconstructor.Therecor dan dverifysystemcurrent lyemployedis theIMPACMOS AIQ4DTsequenc ermodule.Thi sunit rece ives thetre atmentparam etersin DICOMRTformatfromthetreat mentplanning system(T PS)andex portstheinfor mationtotheL INAC's 4DTC.Thesequencer m odulethen waitsforthetreat ment tob ecompl etedandreceivest hef inaltreatmentdataincludin gimages takenbytheOBI.

Results: The commissioningan dim plementationoft heLINACwasperformedinstages.T hef irststagewastocollectallthe necessarydat ato allowou r3TPSs to properlycal culatedos eandsendthecorrec tparameterstotheLI NACf ortr eatment.The secondstage includedcon firmingtha tthe OBIperformeddiagnos ticqualityx -raysandthat remotecouch movementswereaccurately employed.Th e thirdandf inals tagewast overi fyt heCBCTimagescouldbetransf erredfr omtheTP Ss, registered,and preparedby MOSAIQ.Afterimaging,c ouchsh iftsare m adetoali gnthepatientt otheirsimulationCTandascree ncaptur ei susedtodocument theshifts.S incetheCBCTda tares ideson the4DTC,t herei scurrentlyno mechani smt oexpo rtitbackinto theMOSAI Qsystem.

Conclusion: TheVarianTr ilogyLIN ACwith OBI andCBCTwas successfullyim plementedu singI MPACMOSAIQi nformation systemin asemi -chart-lessand film -lessd epartment.