

HİBRİT-ARK: LOKAL İLERİ REKTUM KANSERİNDE 3B-KRT İLE VMAT KOMBİNASYONU

YÜCEL SAĞLAM

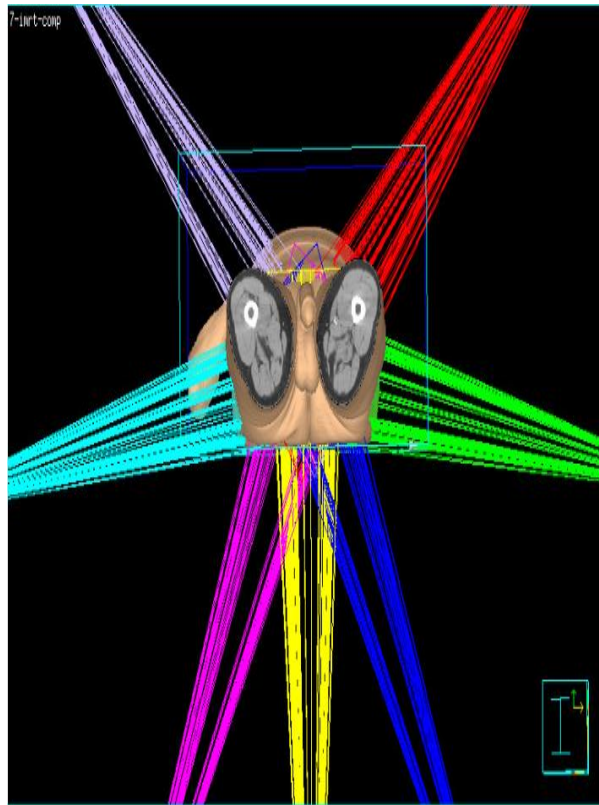
Amaç:

- **VMAT ve sabit gantryli 3B-KRT tedavi tekniklerinin avantajlarını birleştirmek**
- **Hibrit tedavi tekniği kullanarak; VMAT tekniğine sabit gantry ile artmış planlayıcı kontrolü sağlamak**
- **Kritik organları daha iyi korumak**
- **Doz konformalite ve homejenitesini artırmak**

Yöntem:

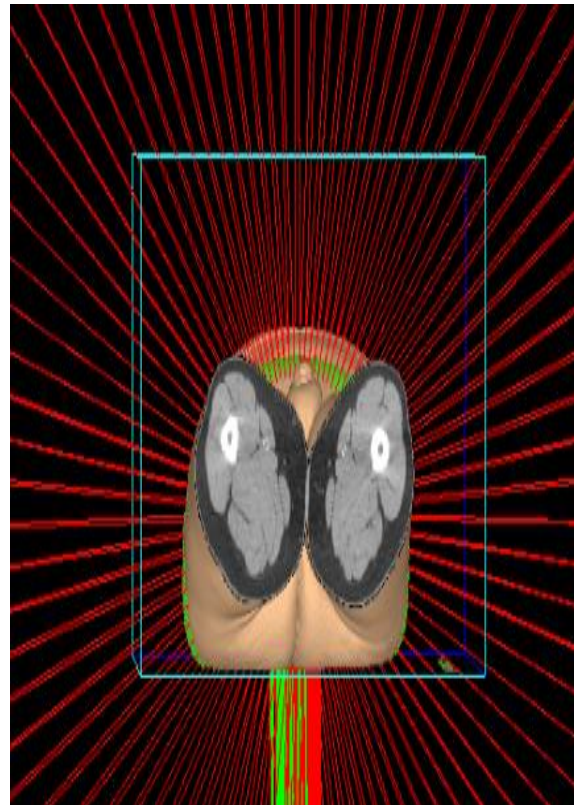
- N1T3 / N1T4 evreli lokal ileri rektum kanserli 5 hasta seçildi.
- 500 cGy/frk X 5 frk = 25Gy toplam doz verildi.
- Planlamalar ***Philips Pinnacle Model Collapsed Cone Convolution Algoritma TPS*** yapıldı.
- TPS'de ***IMRT, VMAT, Hibrit*** tedaviler planlandı.
- **Hibrit Plan = VMAT(2Ark) + 3BKRT(3alan)**

IMRT



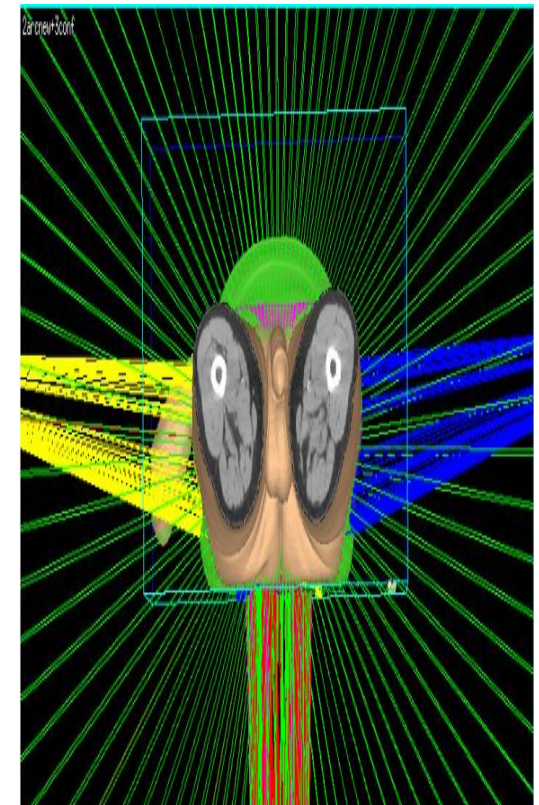
- **Noncoplanar-7 Alan**
 - 30°/80°/130°/
180°/230°/280°/ 330

VMAT



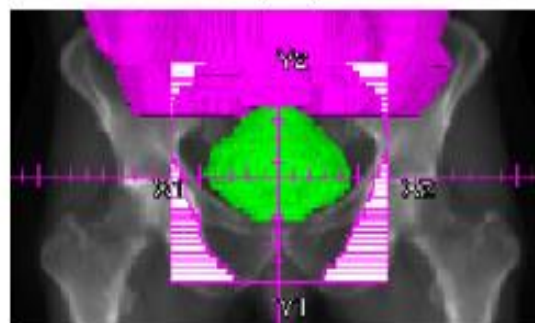
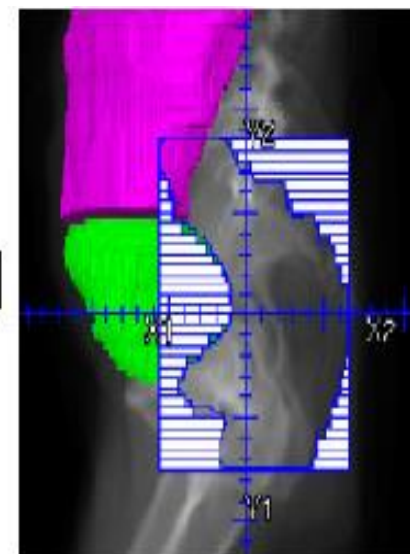
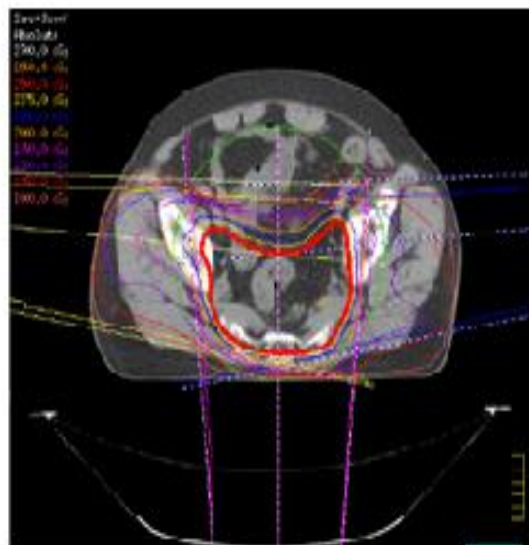
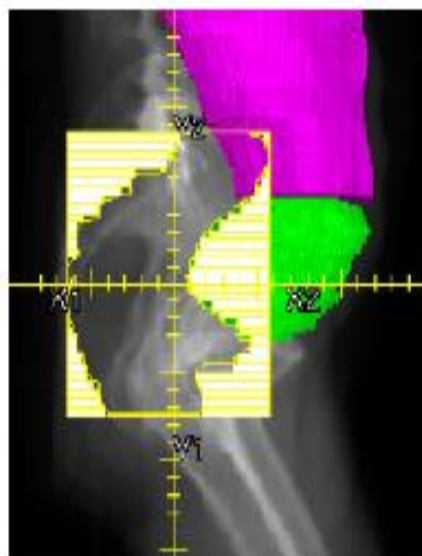
- **2 Ark**
 - 182°-178°
 - Kolimatör 15°/345°

HiBRiT



- **2 Ark = 20Gy**
- **3B-KRT (fif)= 5Gy**
 - 85° / 275° = 18MV (%60)
 - 180° = 6MV (%40)

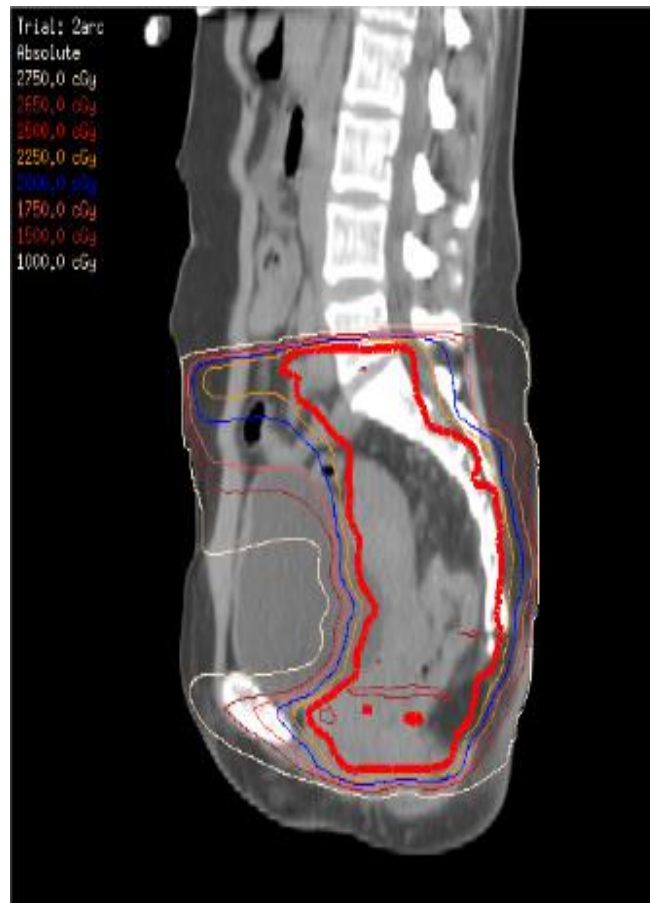
Hibrit Plan



IMRT



VMAT



HiBRIT



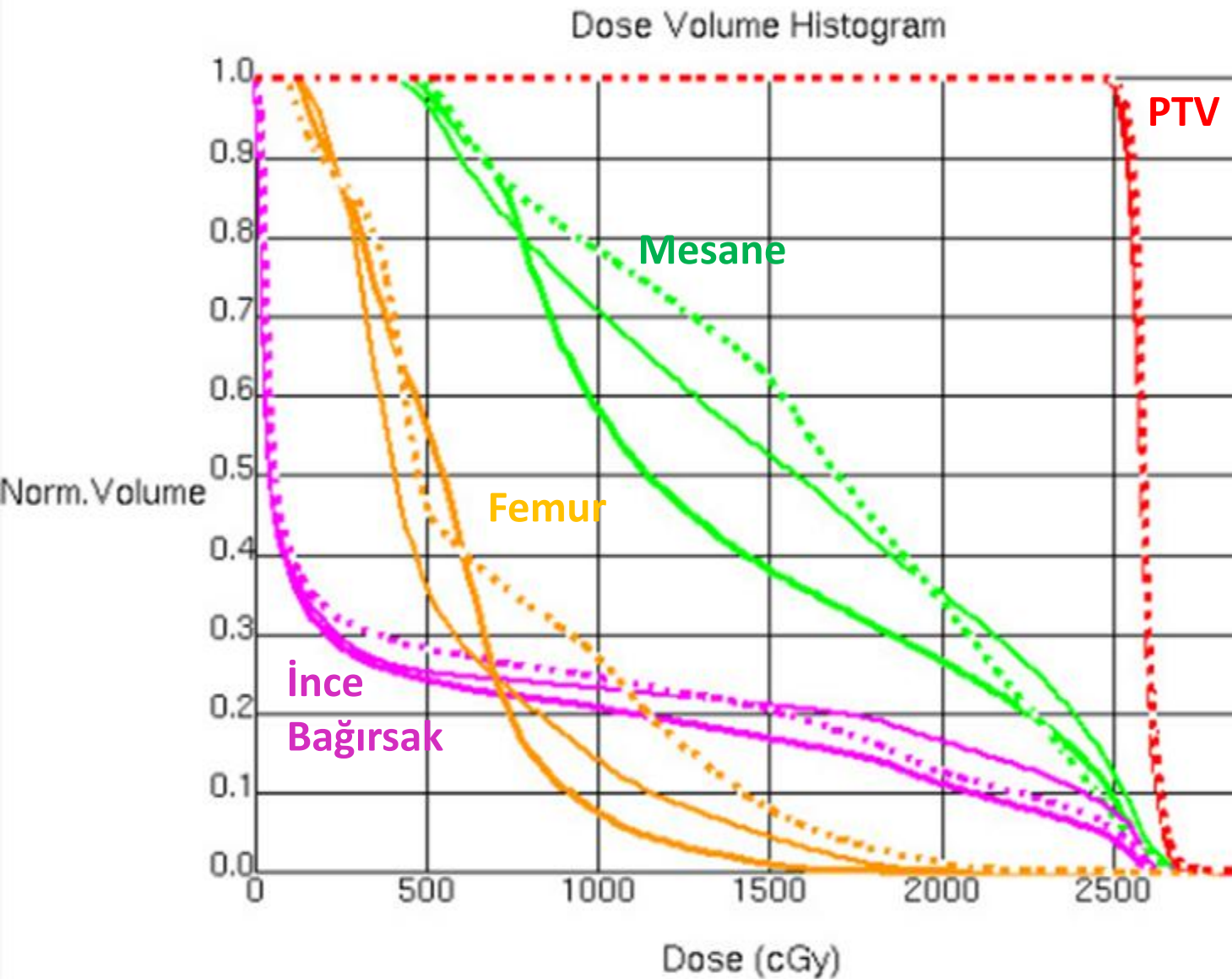
Bulgular:

	vmat	imrt	hybrid
PTV			
Max	27,45	27,82	27,25
Mean	25,96	25,92	25,88
Conformality Index (CI)	1,16	1,22	1,10
Homogeneity Index (HI)	0,33	0,37	0,30
Monitor Unit (Mu)	1264	1804	1495
Body			
V5 (%)	66,51	65,00	64,10
V10 (%)	43,27	42,35	41,00
V20 (%)	15,35	14,70	14,00

Bulgular:

		vmat	imrt	hybrid
Small Bowel	V25cc	1,40	1,44	0,12
	V15cc	45,82	46,95	23,22
	V10cc	115,67	133,01	63,62
	Max Gy	25,23	24,81	23,43
	Mean Gy	7,22	7,28	5,25
Bladder	V25 %	23,07	20,74	15,30
	V20 %	34,53	34,33	26,86
	V15 %	50,07	51,00	39,73
	V10 %	81,49	84,58	68,58
	Mean Gy	17,86	17,93	15,66
Femur Heads	Max Gy	22,60	23,21	20,60
	Mean Gy	8,09	8,04	7,79
	V20 %	4,15	2,36	1,92
	V15 %	15,06	12,22	10,51

Bulgular:



Sonuç:

- Hedef hacim içerisinde daha homojen doz dağılımı
- Daha kısa tedavi süresi (IMRT'ye göre)
- Daha az MU (IMRT'ye göre)
- Daha iyi kritik organ dozları (IMRT-VMAT)