UNIVERSITÀ CATTOLICA del Sacro Cuore

Gemelli ART
Fondazione Policlinico Universitario Agostino Gemelli IRCCS
Università Cattolica del Sacro Cuore

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Art 4 ART

Modern Radiation Oncology. Innovation in personalised oncology: back to the future

33° RESIDENTIAL COURSE

9 | 10 | 11 October 2023

Fondazione Policlinico Universitario A. Gemelli IRCCS
Largo A. Gemelli, 8 - Roma - Aula Brasca

Scientific Coordinators *V. Valentini, M.A. Gambacorta, L. Indovina*
Honorary Presidents *C.A. Perez, N. Cellini*

aifm AITRO EFOMP Associazione Italiana Radioterapia e Oncologia clinica Endorsed by ESTRO

DAY1
Monday 9 October 2023

ONSITE and LIVE STREAMING

15.45-17.30 ***Laboratories for complex problem-solving in radiotherapy***
Lab 1: Interventional RT - *AULA BRASCA*
CHAIR: *L. Tagliaferri*
CASE PRESENTERS: *A. Vavassori, L. Vicenzi*
DISCUSSANTS: *V. Lancellotta, B. Fionda, E. Placidi, P. Cornacchione, G. Kovacs G.C. Mattiucci*

Nasal vestibule cancer

Lisa Vicenzi
Operative Research Unit of Radiation Oncology,
Fondazione Policlinico Universitario Campus Bio-Medico

UNIVERSITÀ CAMPUS BIO-MEDICO DI ROMA

FONDAZIONE
POLICLINICO UNIVERSITARIO
CAMPUS BIO-MEDICO

Clinical Case

December 2022

- Male, aged 74
- The patient arrived for dermatologic examination at our hospital
- On clinical examination, there was a large lesion involving the right and left nasal vestibules
- Incisional skin biopsy nasal vestibule: fragment of moderately-differentiated squamous cell carcinoma

Clinical Case

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December 2022

Clinical Case

Question 1:

Which imaging approach would you believe to be the most appropriate to stage?

1) Endoscopy+US
2) CT
3) MRI
4) CT-PET

Clinical Case

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Which imaging approach would you believe to be the most appropriate to stage?

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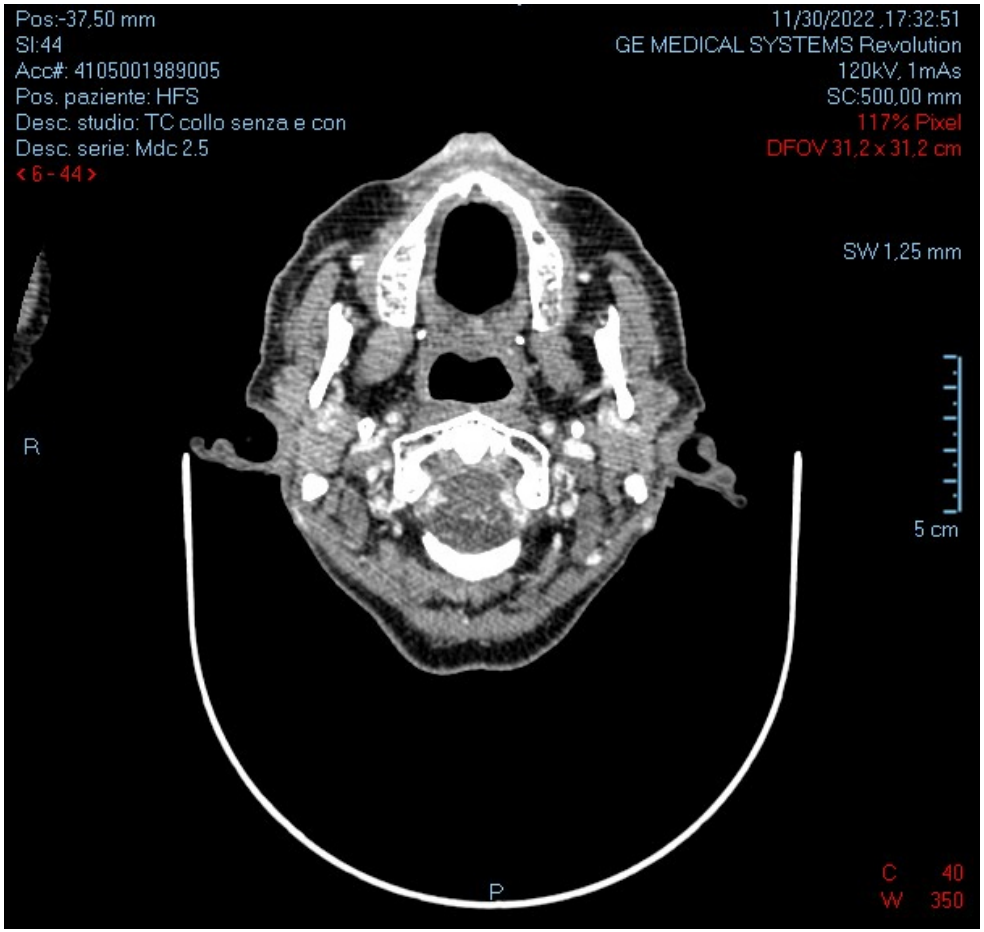
Clinical Case

CT scan



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Clinical Case

December 2022

- MRI/CT scan: No bone invasion, no cartilage destruction, no swollen lymph nodes
- No major comorbidities

Clinical Case

Question 2:

Which staging system would you believe to be the most appropriate to stage?

1) UICC 8th ed. Nasal cavity
2) UICC 8th ed. Cutaneous Carcinoma H&N
3) Wang
4) Bussu et al.

Clinical Case

Question 2:

Which staging system would you believe to be the most appropriate to stage?

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Clinical Case

Staging systems at comparison

	UICC 8th ed. nasal cavity	UICC 8th ed. SCHN	Wang	Bussu *et al.*
T1	Tumor restricted to any one subsite, with or without bony invasion.	Tumor 2 cm or less in greatest dimension.	The Lesion is limited to the nasal vestibule, relatively superficial, involving one or more subsites within.	Tumor limited to the internal lining of the nasal vestibule (skin and/or mucosa).
T2a	Tumor invading two subsites in a single region or extending to involve an adjacent region within the nasoethmoidal complex, with or without bony invasion.	Tumor >2 cm and ≤4 cm in greatest dimension.	The lesion has extended from the nasal vestibule to its adjacent structures, such as the upper nasal septum, upper lip, philtrum, skin of the nose and/or nasolabial fold, but not fixed to the underlying bone.	Tumor invading superficial structures (cutis, subcutis) beyond the nasal cavity, in particular the external surface of the nose, the nasolabial fold, philtrum, or upper lip, without invasion of cartilage, bone, or structures beyond the plane of the pyriform aperture.
T2b	n.a.	n.a.	n.a.	Tumor invading cartilage (quadrangular, triangular, alar), without invasion of bony structures or structures beyond the plane of the pyriform aperture.
T3	Tumor extends to invade the medial wall or floor of the orbit, maxillary sinus, palate, or cribriform plate.	Tumor >4 cm in greatest dimension or minor bone erosion or peri-neural invasion or deep invasion.*	The lesion has become massive with extension to the hard palate, buccogingival sulcus, large portion of the upper lip, upper nasal septum, turbinate and/or adjacent paranasal sinuses, fixed with deep muscle and bone involvement.	Tumor extends internally beyond the plane of the pyriform aperture, with or without cartilage invasion, but without bone invasion.
T4a	Moderately advanced local disease. Tumor invades any of the following: anterior orbital contents, skin of nose or cheek, minimal extension to anterior cranial fossa, pterygoid plates, sphenoid or frontal sinuses.	Tumor with gross cortical bone/marrow invasion.	n.a.	Tumor invades bony structures (e.g. hard palate, nasal bones, frontal process of the maxilla, ethmoid, or orbit).
T4b	Very advanced local disease. Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than (V2), nasopharynx, or clivus.	Tumor with skull base or axial skeleton invasion including foraminal involvement and/or vertebral foramen involvement to the epidural space.	n.a.	Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than (V2), nasopharynx, or clivus.

- Brierly, J.D. The TNM Classification of Malignant Tumours, 8th ed.; Wiley-Blackwell: Hoboken, NJ, USA, 2016
- Wang, C.C. Treatment of carcinoma of the nasal vestibule by irradiation. Cancer 1976, 38, 100–106.
- Bussu, F. Multidisciplinary approach to nose vestibule malignancies: Setting new standards. Acta Otorhinolaryngol. Ital. 2021, 41, S158–S165

Scheurleer WFJ. Cancers (Basel). 2023 Jun 1;15(11):3028.

Clinical Case

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Clinical Case

Question 3:

Which treatment strategy would you believe to be the most appropriate?

1) Surgery
2) External Beam Radiotherapy
3) Brachytherapy (Interventional Radiotherapy)
4) Immunotherapy

Clinical Case

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Clinical Case

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Clinical Investigations

Original paper

Interventional radiotherapy as exclusive treatment for primary nasal vestibule cancer: single-institution experience

Luca Tagliaferri, MD, PhD[1], Nadia Carra, MD[2], Valentina Lancellotta, MD[1], Davide Rizzo, MD[3], Calogero Casà, MD[2], Giancarlo Mattiucci, MD, PhD[1,2], Claudio Parrilla, MD[4], Bruno Fionda, MD[1], Francesco Deodato, MD[5], Patrizia Cornacchione, MSc[1], Maria Antonietta Gambacorta, MD, PhD[1,2], Gaetano Paludetti, MD[4,6], Vincenzo Valentini, MD[1,2], Francesco Bussu, MD[3,7]

Local control at 12, 24, and 36 months: 85.7%

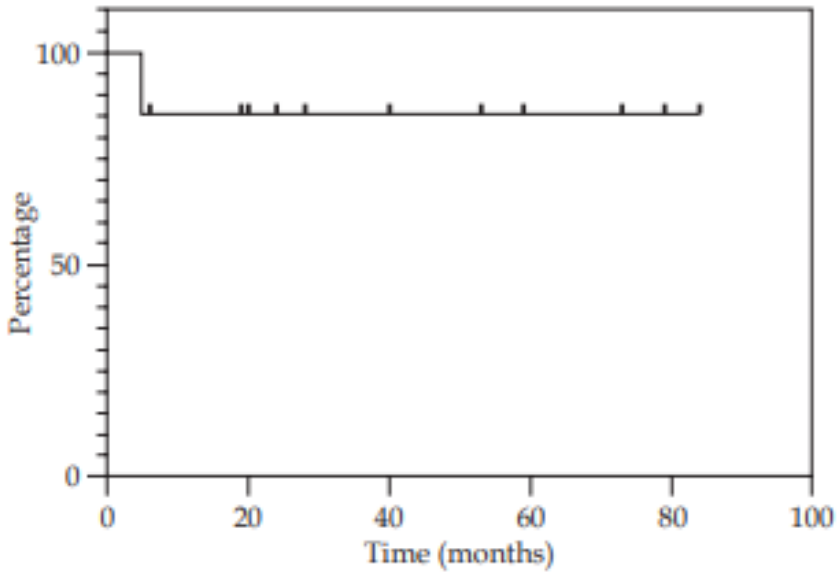

Fig. 2. Kaplan-Meier graph presenting the cumulative proportion of local control

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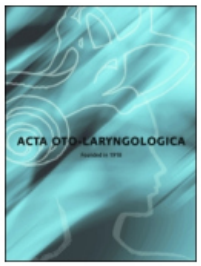

Acta Oto-Laryngologica

2023

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ioto20

New standards for the management of nose vestibule malignancies

Francesco Bussu, Luca Tagliaferri, Claudia Crescio, Davide Rizzo, Roberto Gallus, Claudio Parrilla, Bruno Fionda, Valentina Lancellotta, Gian Carlo Mattiucci & Jacopo Galli

Brachytherapy should become the new standard for the treatment of primary lesions without bone invasion

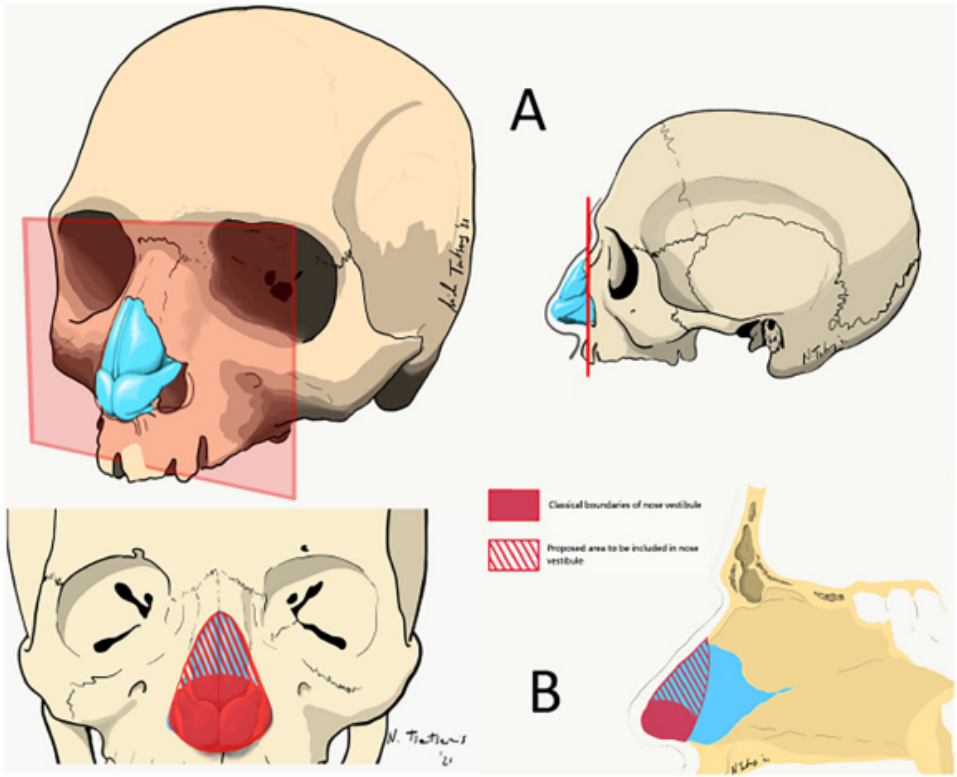

Figure 4. The acknowledgement of the nasal vestibule as a distinct subsite of the nose is proposed, based on radiological, anatomical and oncological criteria. The posterior boundary, easy to identify also on imaging, would be a tangential plane along the piriform opening (A). This will lead to the inclusion of a wider area in the 'nasal vestibule' (B).

Clinical Case

Question 4:

Which implantation technique would you believe to be the most appropriate?

1) Interstitial
2) Contact
3) Combined Interstitial+Contact

Clinical Case

Question 4:

Which implantation technique would you believe to be the most appropriate?

1) Interstitial
2) Contact
3) Combined Interstitial+Contact

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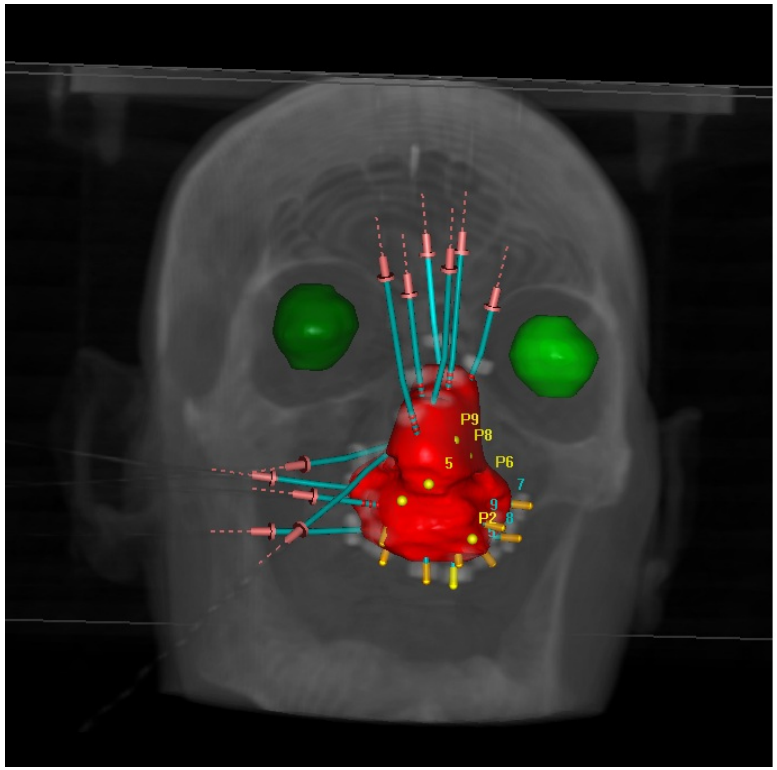
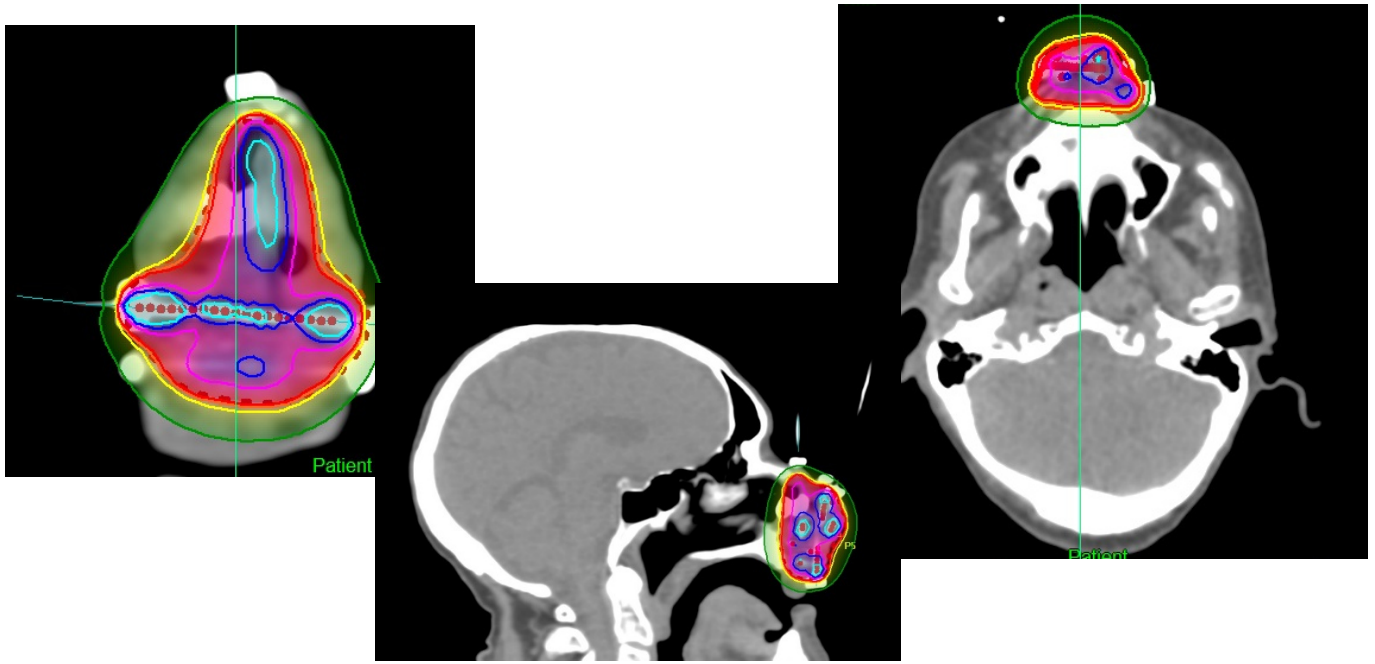
January 2023



- IRT 44 Gy in 14 fractions B.I.D.



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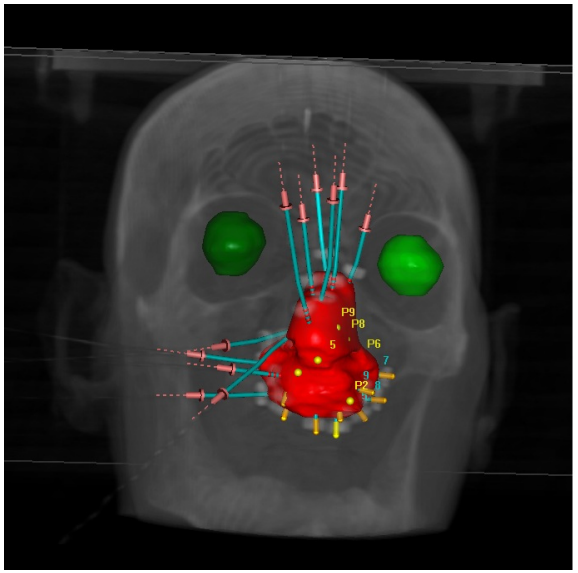
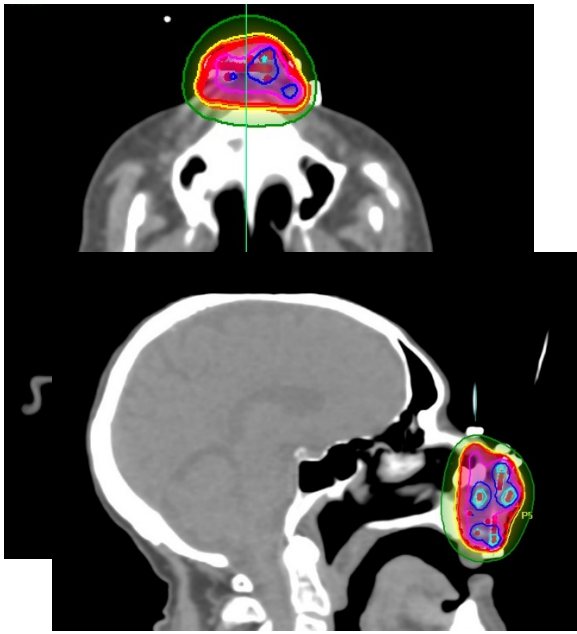
Questions 5:

For physicist:
Treatment plan execution:

- **Which is the best catheters arrangement?**
- **Which is the role of “air”?**
- **TG186 or TG43?**

- IRT 44 Gy in 14 fractions B.I.D.





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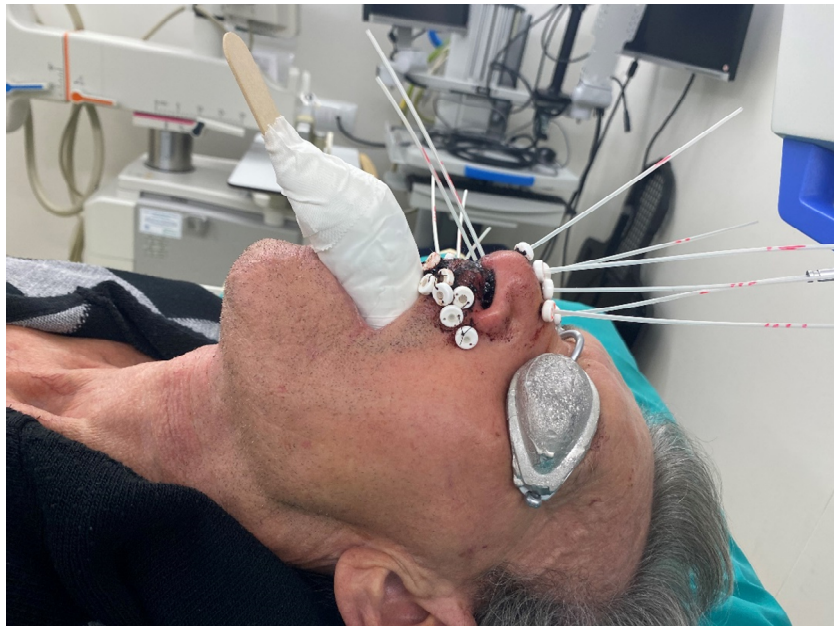
Nasal vestibule HDR IRT: preventing toxicity tips

Bolus to account for TG-43 calculation (nasal swab)

Push away OARs (mandibule,tongue)



Shield OARs (eyes)

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Question 6:

For RTT:
During treatment execution:

How can the correct catheters position be checked?

Clinical Case

Question 7:

Which treatment strategy for the neck would you believe to be the most appropriate?

1) Surgery
2) External Beam Radiotherapy
3) Observation

Clinical Case

Question 7:

Which treatment strategy for the neck would you believe to be the most appropriate?

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2) External Beam Radiotherapy
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Clinical Case

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Disease-specific survival at 12, 24, and 36 months were 92.3%

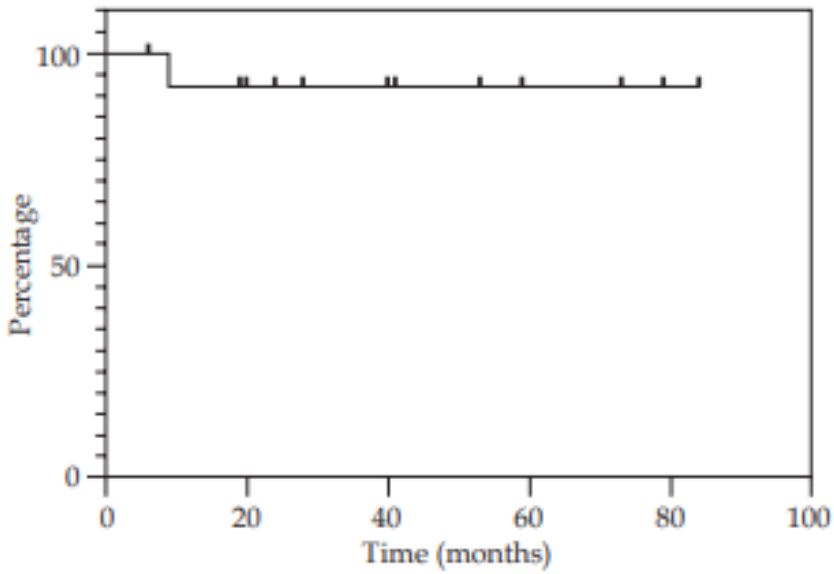

Fig. 6. Kaplan-Meier graph presenting the cumulative proportion of disease-specific survival

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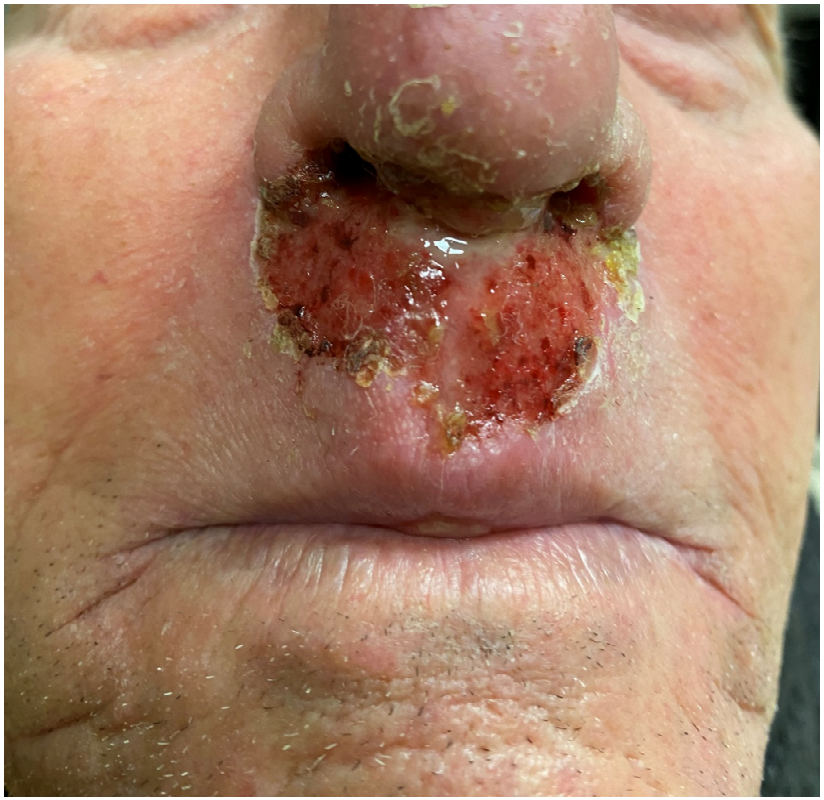
FOLLOW UP: February 2023



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FOLLOW UP: August 2023

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HDR Brachytherapy (Interventional Radiotherapy): outcomes

ESTRO 2024

ANNUAL ESTRO CONGRESS

3-7 May 2024
Glasgow, UK

Abstract submission deadline:
25 October 2023

Radiation Oncology: Bridging the Care Gap

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