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Poster Abstracts

Multimodal management of Malignant Spindle Cell Retroperitoneal Sarcoma: A case report and review of literature

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Purpose

Retroperitoneal Sarcoma (RPS) account for about 2% of all solid malignancies. In Ireland the incidence of RPS is 1.49 per 100,000 and approximately 2.7 cases per million population in the US. The incidence peaks in the fifth decade. Surgical resection with negative margins remains the dominant therapeutic modality. The role of radiation therapy (RT) given pre-operatively or post-operatively continues to be debated. We present a case of RPS treated with pre-operative RT and a literature review

Materials and Methods

A 75-year-old woman presented with a large abdominal mass. CT scan showed a 13.5x11.5x8.5 cm right-sided retroperitoneal mass displacing right kidney, indistinguishable from the psoas muscle. Biopsy showed a highly mitotic tumour, morphology of which was consistent with a malignant spindle cell sarcoma. Following a discussion at the Sarcoma MDT she was referred for pre-operative RT.

Results

On the planning CT scan, the tumour was delineated with a 20 mm margin to Clinical Target Volume and edited off anatomical boundaries and expanded by a further 7 mm to Planning Target Volume. She received 50.4 Gray in 28 fractions intensity modulated RT. She subsequently underwent surgery with clear margins and remains well currently

Conclusion

Surgery with clear margins remains the cornerstone of treatment in RPS as it improves outcomes and should be performed in a specialized sarcoma center. The difficulty in achieving clear margins make neo-adjuvant RT an attractive option. The results of the multi-center phase 3 randomized trial comparing surgery with or without pre-operative RT in Retroperitoneal Sarcoma (STRASS) trial are awaited

Lymphoma of the Conjunctiva: An Unusual cause of red eye

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Purpose

Extranodal marginal zone lymphoma (EMZL) arises in a number of epithelial tissues. Ocular adnexal involvement occurs in <10% of extranodal lymphomas**.** Of these, about 25% occur within the conjunctiva. Estimated incidence of conjunctival lymphoma is 2-4/1,000,000. Conjunctival lymphoma is a clonal B cell neoplasm that recurs locally and has potential for transformation to an aggressive B cell lymphoma. We present a case of conjunctival lymphoma treated with radiotherapy (RT)

Materials and Methods

A 71-year-old male presented with a four-week history of a painless red eye and a raised lesion in his left eye. He denied any visual symptoms. Examination showed a fleshy mass on the bulbar conjunctiva confined to the posterior aspect of the lower eyelid. Biopsy showed a CD 20+ve lymphoid infiltrate consistent with a low-grade lymphoma EMZL type.

Results

Staging investigations showed no evidence of metastases and he was referred for RT. He received 24 Gray in 12 fractions. A 6MeV beam was used with a 0.5cm customized bolus. Patient was seen on set before his first fraction to aid accurate placement of the lens shield and to assess coverage. He reported no major toxicities during treatment and remains in remission.

Conclusion

Most patients with conjunctival lymphoma present with limited stage disease. The data regarding treatment of these patients comes mainly from retrospective series. The mainstay of treatment is local RT and is typically administered to a dose of 24 Gy. Assessment of response and long-term follow-up includes regular ophthalmology reviews and close follow up imaging.

Carcinoma ex pleomorphic adenoma: a sinister cause of salivary gland swelling

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Purpose

Carcinoma ex pleomorphic adenoma is a rare tumour which results from malignant transformation of benign pleomorphic adenoma. They present as a sudden growth of a previously stable mass in a salivary gland, usually the parotid and account for approximately 3.6% of all salivary neoplasms. Carcinoma ex pleomorphic adenoma are high grade malignancies that recur locally and metastasize and should be aggressively treated at presentation.

Materials and Methods

A 48-year-old female presented with a seven-year history of a gradually enlarging left parotid swelling. FNA demonstrated atypical epithelioid cells. She underwent left superficial parotidectomy which showed an 80 mm high grade carcinoma ex pleomorphic adenoma with a resection margin of 0.3 mm with salivary duct carcinoma forming the malignant component. Staging scans showed no metastases and she was referred for adjuvant radiotherapy (RT)

Results

She received 60Gy and 54Gy in 30 fractions RT to the left parotid tumour bed and ipsilateral neck using a simultaneous integrated boost technique which she tolerated well. She remains in remission 3 months post completion of treatment

Conclusion

Carcinoma ex pleomorphic adenoma are associated with a poor prognosis and often only diagnosed post-surgical resection as pre-operative diagnosis is challenging due to low sensitivity of fine needle aspiration (29-44%).Its development follows multi-step model of carcinogenesis with loss of heterozygosity at chromosomal arms 8q, then 12q, and finally 17p.5 year survival rates vary from 25-65%.Accurate diagnosis and specialist surgical resection can improve survival. Indications for adjuvant radiotherapy include high grade disease, incomplete resection, lymph node and peri-neural invasion.

A rare case of Melanocytic Hyperpigmentation of the Tongue secondary to radiotherapy

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Purpose

Melanocytic hyperpigmentation of the mucosa secondary to radiotherapy is a rare occurrence. It is a diagnosis of exclusion. Extensive literature review identified only one case report and one small case series of three patients published to date. We present a case of a patient treated at our institution.

Materials and Methods

An 18-year-old male patient of African descent underwent radical radiotherapy (RT) to his right neck for paediatric type follicular lymphoma over a period of 4 weeks. He developed hyperpigmented tongue lesions during his third week of radiotherapy. There was no associated tongue discomfort, inflammation, infection, or pigmentation change elsewhere in the oral mucosa. Review of medications and past medical history did not demonstrate any contributing factors. Full blood count and biochemistry, morning cortisol levels and coagulation screen were all normal apart from mild neutropenia and lymphopenia

Results

This patient received 36 Gy in 18 fractions. Review of his radiotherapy plan showed part of his right lateral tongue was within the planning target volume (PTV). He had an excellent response to RT and remains in remission. The tongue lesions resolved spontaneously 3 months post treatment.

Conclusion

Melanocytic hyperpigmentation of the tongue is a rare but self-limiting complication of radiotherapy. All identified cases in the literature have occurred in patients with dark skin. It is a diagnosis of exclusion. Potential causes including medication (e.g. pegylated interferon, ribavirin), malignancy (e.g. malignant melanoma), endocrine causes (e.g. Addison's disease), and extravasations of blood (e.g. petechiae) should be out ruled prior to attributing this condition to radiotherapy.

Solitary Plasmacytoma of Bone: A case series and review of literature

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Purpose

Plasma cell neoplasms are characterized by a neoplastic proliferation of a single clone of plasma cells and can present as a single lesion (solitary plasmacytoma) or as multiple lesions (multiple myeloma-MM). Solitary bone plasmacytoma (SBP) is a localized tumour in the bone in the absence of other features of MM. The median age at diagnosis is 55 years. The primary treatment for patients with SBP is radiotherapy (RT).

Materials and Methods

Medical records of patients registered with a diagnosis of plasma cell neoplasm in the year 2018 were reviewed. Those with a diagnosis of SBP treated radically were included. We also undertook a literature review and present treatment outcomes on our case series

Results

Five patients with SPB were identified. Three patients presented with SBP in the spine, another with a sternal SBP and a fifth patient was diagnosed with SBP in the left glenoid. All were treated with radical RT.

Conclusion

SBP's have a high risk of progression to MM. RT to the tumour and surrounding extension of microscopic disease is the treatment of choice. Response rates exceed 80 to 90 percent and is highest in tumours < 5 cm in maximum diameter. Given the paucity of phase 3 clinical trial data and based on consensus opinion from the ILROG panel current guidelines advocate the use of RT doses up to 35-40 Gy for SBP's < 5 cm and up to 40-50 Gy for tumours > 5 cm. The median overall survival of patients with SPB is approximately 10 years.

Primary Testicular lymphoma and scrotal irradiation: A case series

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Purpose

Primary testicular lymphoma (PTL) is the most common testicular neoplasm in men above the age of 50 years. It represents 5%-10% of all testicular malignancies.PTL can recur in the contralateral testis, the central nervous system and extranodal sites. Overall survival depends on stage and histology. Multimodal management comprises of therapeutic orchidectomy, systemic chemotherapy, CNS prophylaxis using intrathecal agents and irradiation of the contralateral testicle and scrotum to reduce recurrence rates in sanctuary sites. Several radiation techniques for scrotal irradiation are currently used. We present a case series from our institution.

Materials and Methods

Medical records on patients with a diagnosis of B Cell Lymphoma in 2018 were reviewed. Those with a diagnosis of PTL were included in our study and their radiotherapy plans reviewed. We also conducted a literature review to identify published data on PTL.

Results

Three patients with PTL were identified. All 3 patients were in their mid to late 70's and were referred for scrotal irradiation following orchidectomy, systemic and intrathecal chemotherapy. They went on to receive 30 Gray in 15 fractions. We report on the planning techniques used in treating these patients and treatment outcomes.

Conclusion

Whole scrotal irradiation to a minimum dose of 30 Gray is recommended as standard treatment in PTL. CT based planning using 2 oblique photon beams showed the best planning target volume coverage with minimum dose to the adjacent normal tissues. Accurate and reproducible patient positioning is required at the time of CT simulation and treatment delivery to ensure optimal dose coverage.

A challenging case of Angiosarcoma of the scalp: Case report and review of literature

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Purpose

Angiosarcomas are rare, malignant vascular tumours, which account for approximately 2% of all soft tissue sarcomas. Angiosarcomas of the scalp and face form a distinctive poorly prognostic subgroup with 5-year survival of only 10-15%. Clear management guidelines are lacking and limited evidence exists only from case reports and single institution experiences. We present a case of this rare tumour and the associated management challenge.

Materials and Methods

A 75-year-old male patient presented with a four-month history of a fungating scalp lesion. Biopsy showed a CD34 positive atypical spindle cell proliferation consistent with an angiosarcoma. Imaging showed a 10x15 cm vertex lesion with no nodal or distant metastases. His case was extensively discussed at the local and international sarcoma MDT meetings. Due to the large size, it was felt that negative surgical margins would be unattainable even with neo-adjuvant radiotherapy (RT).

Results

He went on to receive definitive intensity-modulated RT (66Gy/33fr), using a 40 mm CTV margin on gross disease and a 4 mm PTV margin. He developed severe grade three skin reaction during RT which necessitated antibiotics and opioids. At 4-month follow-up review, clinical examination and MRI showed significant tumour regression.

Conclusion

This case highlights the complexities involved in the management of these tumours.MDT approach tailored to the patient's age and co-morbidities is often required. Combination of surgery and RT offers the best chance for long-term control. In unresectable cases, RT alone may be considered; usually with partial responses. The role of systemic therapy needs to be better defined.

No Ifs, No Butts!! An audit of smoking habits in patients with Head and Neck Cancers undergoing radiotherapy

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Purpose

Tobacco and alcohol use are well established risk factors for Head and Neck Cancers (HNC). In Ireland, around 67% of HNC patients receive radiotherapy (RT) as part of their treatment. HNC patients who continue to smoke during RT have worse local control rates, overall survival and are more likely to develop a second cancer than never-smokers. The aim of our study was to evaluate smoking habits in HNC patients who have undergone RT and identify potential interventions to support smoking cessation.

Materials and Methods

We invited patients attending the OPD clinic for follow-up of HNC to respond to a self-administered questionnaire between December 2018 and March 2019 which gathered information on patient demographics, tobacco and alcohol use before and during RT.

Results

Over a 3 month period, 96 patients participated. 75 were male (78.1%) and 21 female. The median age of respondents was 61 years. 79 patients (82.3%) had a history of smoking and 15 reported that they were still smoking at the time of the SAQ. Of those still smoking, 66.7% said they would like to receive help quitting. There was a statistically significant association between other members of the household smoking and whether the respondent continued to smoke ($p=0.010$).

Conclusion

Our survey showed that 1 in 5 of the patients who ever smoked continued to do so and two thirds of these patients would like to receive help to quit. We should also encourage smoking cessation of family members to support smoking cessation of our patients.

Hypopituitarism after radiotherapy for functioning and non-functioning pituitary adenomas: A retrospective analysis

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Purpose

Radiotherapy (RT) in the form of fractionated RT and stereotactic radiosurgery (SRS) is used in treating secreting and non-secreting, residual or recurrent pituitary adenomas to achieve long-term disease control. Pituitary hormone insufficiencies are the commonest late complication of radiotherapy. The purpose of this study was to investigate the incidence of newly diagnosed hypopituitarism following RT for pituitary adenomas

Materials and Methods

We retrospectively reviewed patients with pituitary adenomas treated with both fractionated RT and SRS at St Luke's Radiation Oncology Network, Dublin between 2013 and 2016.Endocrine assessment was carried out prior to SRS and at regular intervals post treatment at the discretion of the endocrinologist.

Results

Of the 27 patients identified,11 (41%) had non-functional and 16 (59%) had functional pituitary adenomas. Nine (33%) were treated with fractionated radiotherapy,18 (66%) were treated with SRS.Mean tumour diameter was 19.5 mm. Twenty patients (74%) had a pre-radiotherapy hypopituitarism while 25 (93%) had at least one prior surgical resection. Six patients (22%) developed new post RT hypopituitarism. Of these,3 received a fractionated dose of 50.4Gy, with the remainder receiving SRS 22Gy, 20Gy and 13Gy.Median time to pituitary deficiency was 11.7 months. There was no correlation between gender (p=0.18), pre-RT hypopituitarism (p=0.29) or pituitary size. Twenty-four patients (89%) had stable disease at a median follow up of 36 months. No patient experienced grade 3/4 toxicity.

Conclusion

Whilst hypopituitarism is a recognized complication RT remains a safe and effective treatment option for patients with both functioning and non- functioning pituitary adenoma. Further follow up is required to assess long term outcomes for these patients

A Rare Case of Non-Invasive Extramammary Paget's Disease of the Vulva treated with Radiotherapy

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Purpose

Extramammary Paget's disease of the Vulva (EPDV) is a rare indolent neoplasm of the apocrine glandular tissue, most commonly affecting postmenopausal Caucasian women. It has a high recurrence rate. Whilst wide surgical excision is an integral part of treatment, clear management guidelines are lacking and there is a paucity of data regarding the role of radiotherapy (RT).

Materials and Methods

We present a case of a patient with this rare tumour who was recently treated at our institution

Results

A 73 year-old-female presented with a 6 cm x 1.5 cm right vulvar and peri-clitoral lesion. Biopsies showed Paget's disease of the vulva with no evidence of invasive carcinoma. Immunohistochemistry showed positive cytokeratins (Cam5.2 AE 1/3), positive CEA and negative Melanin A. Staging scans showed no metastases. Following gynae-oncology MDT discussion she was referred for RT and received 60 Gy in 30 fractions in 2 phases which she completed with no major difficulties. She remains in remission 7 months post RT.

Conclusion

Whilst non-invasive EPDV constitutes a majority (80%) of cases of vulvar extramammary Paget's disease, this is one of few cases reporting on the successful use of RT in the treatment of non-invasive EPDV. Furthermore, a number of small studies have shown there is a low risk of developing invasive EPDV or metastases post treatment for non-invasive disease. This questions the need for aggressive surgical treatment in patients with non-invasive disease. Further studies are required to assess the role of RT as a standard treatment modality for EPDV

Efficacy of LHRH agonist-free cytoreduction with bicalutamide and dutasteride prior to prostate seed brachytherapy

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Purpose

Our institutional practice for patients planned for brachytherapy is to first perform a TRUS volume study to assess for technical feasibility. For patients who are unsuitable, cytoreduction with androgen-deprivation therapy may overcome the obstacles to proceeding. In an effort to spare patients the known side effects of LHRH agonists, we have adopted bicalutamide 50mg once daily combined with dutasteride 0.5mg once daily for 12 weeks as described by Gaudet et al in Radiotherapy and Oncology. The purpose of this retrospective review was to establish the efficacy of this regimen in converting patients to suitability for a prostate seed implant.

Materials and Methods

36 patients who were deemed unsuitable for brachytherapy based on their large gland volume and/or the presence of pubic arch interference (PAI) received a combination of dutasteride and bicalutamide for 12 weeks. TRUS volume studies were then repeated to assess whether the patients had become suitable for treatment.

Results

Median prostate gland volume was 53.5cc (IQR 47-60cc) pre-cytoreduction and 38cc (IQR:35-42cc) after the 12 weeks of cytoreduction. The median reduction in gland size was 29.0% (IQR 25-36.2%).33 out of 36 patients (91.7%) had PAI on initial TRUS and 13/35 (37.1%) post cytoreduction. Of the 13 patients with persistent PAI post cytoreduction 9 were felt unsuitable to proceed to implant. One of the initial 36 had an obstructive pattern on uroflow study so did not proceed. Overall, 26/36 (72.2%) were suitable candidates for brachytherapy following 12 weeks of cytoreductive therapy

Conclusion

The percentage of our patients who converted to suitability for brachytherapy following LHRH-free cytoreduction is similar to those described previously in the literature. It is also comparable to those who report conversion to suitability using LHRH agonists, albeit with a more favourable side effect profile.

Radiotherapy for the prophylaxis of Heterotopic Ossification: A case series and review of literature

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Purpose

Heterotopic ossification (HO) or myositis ossificans is the development of bone in soft tissue Traumatic HO occurs after injuries or surgeries, develops in bones and joints in the vicinity of areas that are injured. The neurogenic type occurs as a result of neurological disorders in patients with cerebral or spinal cord injuries as a result of prolonged joint immobility. HO affects quality of life and causes pain, swelling, loss of joint motion. Radiotherapy (RT) is an effective treatment modality for HO as it can potentially inhibit osteoprogenitor cell proliferation which causes HO.

Materials and Methods

Medical records of patients who were referred with a diagnosis of HO over the last 12 months was reviewed. We report on 2 patients who received RT and a review of literature.

Results

Patient 1 was a 44-year-old-male with a history of a CVA in 2011 who had developed HO in his right hip as a result of restricted hip mobility. He underwent excisional debridement of HO and had adjuvant RT (8Gy/#) within 48 hours of surgery. Patient 2 was a 43-year-old-male with a history of a RTA in 2015 with multiple fractures who had developed HO in his right elbow. He received adjuvant RT (8GGy/1#) within 24 hours of debridement surgery.

Conclusion

Radiotherapy is an alternative treatment modality aimed at reducing the post-operative risk of development of HO. Given its rarity, no globally accepted guidelines have been established for its management, and the dose and timing of the RT schedules vary among different centers.

The Modern management of Brain Metastases

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Purpose

We set out to review the roles of different treatment options to guide management for patients with newly-diagnosed brain metastases.

Materials and Methods

We undertook a comprehensive literature review to examine treatment options with a particular focus on recent advances and where these can be applied to clinical practice.
These included the impact of imaging techniques such as fMRI on surgical outcomes, improved SRS technology including the capacity delivery of fractionated stereotactic radiotherapy, and the development of systemic therapies with CNS penetration. By examining these techniques in detail, and more long-established treatment options, we have formulated an algorithm-based approach which can help inform management.

Results

Surgery is most beneficial in patients with a reasonable prognosis and where other treatment options are unlikely to provide equivalent control.SRS and WBRT each have advantages in certain situations and this is often a trade-off between better CNS control with WBRT and a more favourable side effect profile with SRS. Upfront systemic therapy may be an option in carefully selected patients with BRAF-mutated melanoma or EGFR or ALK/ROS1 mutated NSCLC. Best supportive care may be preferable for asymptomatic patients with poorer performance status or life expectancy.

Conclusion

A multidisciplinary approach involving Neurosurgeons, and both Radiation and Medical Oncologists is needed to fully evaluate the options for individual patients. As many of the treatment decisions are a trade-off between quality of life and outcome metrics, shared decision-making with patients is also critical to ensure that patients receive the best treatment for them.