J-MWAN 5 (2017) 7–13

COMPLETE RESOLUTION OF A HUGE NECK MASS (NON HODGKINS LYMPHOMA) FOLLOWING CHEMOTHERAPY/RADIOTHERAPY IN A NIGERIAN FEMALE.-A CASE REPORT.

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KEYWORDS

Non-Hodgkin's Lymphoma, CHO Pregimen, external beam radiotherapy.

SUMMARY

Introduction

Lymphomas are a group of cancers that affect the lymphatic system. There are two major types; Non-Hodgkin's lymphoma (NHL) which constitutes about 90% of cases and Hodgkin's lymphoma (HL) which constitutes about 10%. Lymphomas are generally chemo and radiosensitive.

Background

The patient presented, is a 45year old lady who had a 3-year history of neck swelling with histological diagnosis of a non-Hodgkin's lymphoma high grade type, stage III .She had six

courses of chemotherapy CHOP(cyclophosphamide, doxorubicin, vincristine, and prednisone) regimen by the haematologist for which she initially responded to.
Six months later she re-presented with local tumour recurrence, progressive increase in tumour size with severe bleeding which necessitated a referral to the radiation oncologists. She subsequently had further chemotherapy and palliative radiotherapy and this resulted in a complete resolution of the tumour.

CONCLUSION

There was a complete tumour resolution despite the advanced stage and tumour size to chemoradiation therapy.

INTRODUCTION

Lymphoma is a general name for a group of cancers that affect the lymphatic system. The two major types of lymphoma are Hodgkin lymphoma (HL) and non-Hodgkin lymphoma (NHL).Chemotherapy plays a major role in the treatment of lymphomas as they are very chemosensitive. Chemotherapy alone or combined modality treatment with chemotherapy and radiation therapy is typically utilized even for early stage disease. Radiation therapy (RT) plays a secondary role in the treatment of lymphomas as an adjuvant treatment to the involved fields especially as a combination therapy for early stage disease and also for palliation to control hemostasis, pain and debulking.
The aim of radiation therapy is to kill cancer cells for a maximum probability of cure with minimum side effects. Radiation is usually given in the form of high-energy beams that deposit the radiation dose into the body where cancer cells are located. Radiation therapy, unlike chemotherapy, is considered a local treatment. Cancer cells can only be killed where the actual radiation is delivered to the body. If cancer exists outside the radiation field, the cancer cells are not destroyed by the radiation. It is also important to note that the treatment of lymphomas with radiation therapy and chemotherapy is still evolving. Eastern Cooperative Oncology Group (ECOG) study 1484 a randomized trial showed a significant advantage for adding RTto patients as RT prolonged Disease free survival(DFS) and provided good local control1
Presented here is a case of a patient who had a very huge neck mass that necessitated the addition of radiation therapy before complete resolution was achieved. Interesting to note was that the patient had a single fraction of 8gy external beam irradiation intended forhemostasis, however tumour continued to slough off until there was a complete resolution.

CASE REPORT

The patient is a 45-year old caterer (restaurant owner) who was first seen in the referral hospital on account of a neck swelling of 3years duration which was noticed one morning; there were also smaller axillary nodes and bilateral inguinal nodes. The neck mass was the

size of a small tennis ball, wastender, and attached to the underlingstructures, anincision and drainage was done with scanty discharge of pus and bloodin the clinic. A biopsy was done afterwards and the histology revealed a high grade non-Hodgkin'slymphoma.
Her laboratory workup; a full blood count,electrolyte, urea and creatinine, retroviral screening and radiological investigations including a plain x-ray of the neck, a chest x-ray and an Abdominopel vicultrasound, were all within normal limits, chemotherapy CHOP (cyclophosphamide 750mg/m2 IV(intravenous) on day 1,doxorubicin 50mg/m2 IV on day 1 , vincristine,1.4mg/m2 IV on day 1 and prednisone 40mg/m2 PO(per oral) on days 1-5;regimen was commenced 4 weekly for 6 courses with good response; the tumour regressed significantly hence RT was not indicated at this time. She was thereafter discharged.

After two months of discharge from the hospital the masses started growing again and this time the neck mass grew to a very huge size that measured32x30cm, **(fig 1& 2)** she resorted to traditional m dications after which the mass fungated with foul smelling discharge which made her become septic and pale. She then presented to University of Benin teaching hospital (UBTH) six months after initial discharge. Her physical examination revealed a middle aged woman very pale and febrile with a fungating huge neck mass of about 32x30cm,she also had an indurated; non-tender 3 × 3 cm lymph node in her left axilla and inguinal lymph nodes bilaterally. Her performance status (ECOG Eastern Cooperative Oncology Group)was 3. Investigations were done; urgentpacked cell volume (PCV), Full blood Count, Electrolyte, Urea and Creatinine and Abdominopelvic Ultrasound. PCV was 11%, WBC 26,000/mm3; other results were within normal limits. She had blood transfusions and parenteral antibiotics ceftriaxone and metronidazoleon account of pallor and sepsis. After stabilizing her, chemotherapy was to re-commence using R- CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone)regimen but she was not able to afford rituximab (Rituximab is an antibody that can be used alone or with chemotherapy. She eventually started on CHOP only with increase of prednisolone to 100mg PO daily on days 1-5. After 4courses there was still persistent swelling and bleeding of the neck mass with no remarkable reduction in tumoursize, so the radiotherapy team was invited for haemostasis and possible debulking of the huge neck mass. She was reviewed by radiotherapy team and subsequently was planned for palliative haemostatic debulking external beam radiotherapy. External beam irradiation was administered from a linear accelerator, a right and left lateral field to only the huge neck mass was planned and a dose of 8gy single fraction given to arrest bleeding. There was subsequent arrest of bleeding with significant tumour regression **(Fig 3),** further conventional radiotherapy was not possible because the radiotherapy machine became faulty however the tumour continued to slough off for about three weeks till the mass completely disappeared (there was complete resolution) **(Fig 4).**Chemotherapy was continued at the same time and it was noticed that other nodes in her body also started disappearing. She completed 8 courses of CHOP

chemotherapy and they were well tolerated.
Patient is 9 months post treatment and is stable with no evidence of local recurrence or distant spread.

fig. 1

fig. 2

fig. 3

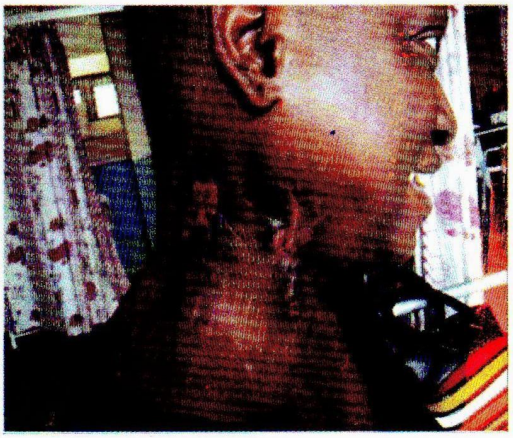

fig. 4

DISCUSSION

The NHLs are a heterogeneous group of lymphoproliferative malignancies with differing patterns of behaviour and responses to treatment**2**,it has been documented that with modern treatment of patients with NHL, overall survival at 5 years is over 60%. Of patients with aggressive NHL, more than 50% can be cured. The vast majority of relapses occur in the first 2 years after therapy while the risks of late relapse is higher in patients who manifest both indolent and aggressive histologies.**3**. Indolent NHL is responsive to immunotherapy, radiation therapy, and chemotherapy, while a continuous rate of relapse is usually seen in advanced stages. Patients, however, can often be re-treated with considerable success as long as the disease histology remains low grade while patients who present with or convert to aggressive forms of NHL may have sustained complete remissions with combination chemotherapy regimens or aggressive consolidation with marrow or stem cell support.**4,5**.In a study by Quero L et al they found that Radiation therapy could be delivered with curative-intent in localized indolent non-Hodgkin's lymphoma and could be helpful in symptom relief

in advanced or relapsed indolent lymphoma.6 Our patient however presented with an aggressive disease that necessitated the need for radiation therapy when only chemotherapy could no longer control the disease.

Radiation therapy for the treatment of non-Hodgkin's lymphoma may be used alone or in combination with other treatment options, such as chemotherapy . Radiation is also used for palliative care if chemotherapy is not working as in the case of this patient presented.

Radiation therapy can be used with curative or palliative intent for recurrences. If the recurrences are localized and can be encompassed within a tolerable field of radiation and good results can be achieved. More often, patients with recurrent Non-Hodgkin's lymphoma receive radiation for palliation of local symptoms. The patient presented had radiotherapy with palliative intent, to control bleeding and possible debulking.

Although some cases of spontaneous tumour regression have been documented. The frequency of spontaneous regression of cancer has been estimated to be about 1 case per 100.000patients.7 Approximately 20 cases are reported each year. The definition of spontaneous remission does not necessarily imply a spontaneous cure of the cancer, as it even applies to cases of incomplete or temporary regression of disease it indicates that the tumor growth hasstopped or reversed. Spontaneous regression has been described with relative frequency among various malignancies, 8and occurs more frequently in low-grade Non-Hodgkin lymphoma(NHL).9, 10

Manohara Kenchaiah and **Steve L Hyer** reported a case of a 65 year old Caucasian with non-Hodgkin's lymphoma with metastases to the pituitary. She received six cycles of R-CHOP chemotherapy, after which she achieved a complete metabolic response at all known previous sites of the disease, confirmed by positron emission tomography scanning. Concomitant with the tumour response, there was full recovery of adrenal, thyroid and gonadal axes which has persisted at 10 months follow-up. 11

On the role of Radiation **therapy for primary non-Hodgkin's lymphoma of the head and neck**, studies by Teshima T et al showed that more intensive chemo radiotherapy is necessary as the first-line treatment in those with poor prognosis, especially those with T-cell type and high grade histology. In addition, maintenance chemotherapy after initial chemo radiotherapy is very important for Stage II NHL patients, especially those with a high LDH value or multiple cervical lymph node involvement .12

et al from a **prospective multicentre study (The Study Group NHL)** evaluated the long-term outcome of patients with limited-stage primary extra nodal lymphoma of head and neck treated with definitive radiotherapy in low-grade and a combined radio- and chemotherapy in high-grade lymphoma, they found that of 63 patients with primary extra nodal Non-Hodgkin lymphoma of head and neck region, stages IE and IIE who were treated with radiotherapy ,the overall 5-year survival rates for low-grade was 67% and for high grade lymphoma 88%. The corresponding relapse-free survival rates were 54/68%, respectively; this resulted in findings that in stage I or II patients with low malignant Non-Hodgkin's

lymphoma of the head and neck, initial management with definitive external radiotherapy is appropriate and probably curative whereas in high-grade lymphoma of clinical stage IE with nonextensive tumour size definitive radiotherapy is possible in curative intention. It was then concluded that primary chemotherapy followed by radiation is probably preferable**13**
In amulticentre study by Adrien Chauchetet al they found that, the early use of RT(Radiotherapy) concomitantly or sequentially with (chemotherapy)CT was shown to improve patient outcome, especially in the case of localized disease, and even in patients presenting aggressive forms. Combined therapy comprising RT and antracycline-based CT regimens was associated with higher CR rates and longer OS compared to CT or RT alone, even in advanced-stage disease (CR rate of 31.

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