

Management of bone metastasis of differentiated thyroid cancer: Crucial role of Iodine 131

Objective: To determine the role of Iodine 131 in the management of bone metastasis of differentiated thyroid cancer

Patients and methods

This is a retrospective study including 109 patients with bone metastasis of differentiated thyroid cancer (DTC) with a regular follow up at the department of nuclear medicine of CHU Bab El Oued. Those 29 men and 90 women with an average age of 52 years (range from 20yrs to 70yrs) presented bone metastasis of DTC with the following pathological variants: 71 follicular (pure or variant forms), 27 papillary (21 pure and 12 variants) and 11 indeterminate. From the 109 patients, bone metastasis were the onset of DTC in 43 patients and discovered during the follow up in 66 patients. Bone mets were associated with mets in other parenchymal sites in 69 patients (including 47 in lungs). The most common site of bone mets was the pelvis (42 patients) followed by spine (39 patients) then skull (26 patients). All patients were treated with radio iodine, 49 alone and 66 in association with other therapeutic modalities (Surgery, external radiotherapy and targeted chemotherapy).

Results

101 patients received at least 11GBq with a global average of 18GBq. For those patients who were treated by I131 only (57) the average of cumulative dose was little bit inferior than those patients who received an additional therapy (52) for their bone mets (16GBq versus 20GBq). During the follow up no serious complication observed with I131 treatment in 101 patients. Intrinsic stimulation alone was used in 57 patients and associated with recombinant TSH in 52 patients. 83 patients of 101 were well stabilized during 4 years by radio iodine and 56 patients have had a survival of more than 5 years and 23 patients a survival more than 10 years survival. 66% of patients are still stable and well controlled by radio iodine alone or associated with surgery and external radiotherapy. 8 Refractory cases for radio iodine were noted and have been referred to oncology for targeted or general chemotherapy. However, we have had 23 patients died and 12 patients died for other reasons not linked to direct complications of the metastasis diseases.

Conclusion

Radio iodine treatment of bone metastasis under intrinsic alone or associated with external stimulation is a safe therapy for bone metastasis of differentiated thyroid cancer. However active surveillance for at least twice times by year is strongly recommended in order to assess regularly the progress of bone mets and decide for another iterative dose of I131 or for another complementary therapy.