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## LETTER TO EDITOR

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# Denosumab - a Monoclonal Antibody, not a Radionuclide

*Asian Pac J Cancer Prev*, **16** (5), 2103

### Dear Editor

We read the review that has been published in this journal by Majeed et al about recent developments in breast cancer treatment (Majeed et al., 2014). They state that “Denosumab which is a radionuclide is a newer treatment which can also reduce the rate of skeletal morbidity along with delay of first skeletal event and also reduces bone pain” by citing our review (Erdogan et al., 2014). Denosumab is a monoclonal antibody not a radionuclide as they state. Denosumab prevents osteoclast formation and survival by binding nuclear factor  $\kappa$  B ligand (RANKL). Denosumab is an effective palliative treatment of bone metastasis with solid tumors including breast cancer (Prommer 2014).

Radionuclides are radioactive isotopes that emit local radiation to the targeted tissue. Radionuclides are another treatment option for patients with breast cancer bone metastasis. Especially for patients with multifocal bone metastasis whom external radiation is contraindicated, radionuclides are a reasonable palliative modality. Strontium-89 hydrochloride (Sr-89), samarium-153 lexidronam (Sm-153) and rhenium-186 hydroxyethylidenediphosphonate (Re-186) are preferred radionuclides. Spinal cord compression, high fracture risk or pathologic fracture of weight bearing bone, renal failure, pregnancy and breast feeding are contraindications to radionuclide treatment (Tomblyn, 2012).

In conclusion, denosumab is a bone modifying drug, not a radionuclide.

### References

- Erdogan B, Cicin I (2014). Medical treatment of breast cancer bone metastasis: from bisphosphonates to targeted drugs. *Asian Pac J Cancer Prev*, **15**, 1503-10.
- Majeed W, Aslam B, Javed I, et al (2014). Breast cancer: major risk factors and recent developments in treatment. *Asian Pac J Cancer Prev*, **15**, 3353-8.
- Prommer E (2014). Palliative oncology: denosumab. *Am J Hosp Palliat Care*. [Epub ahead of print]
- Tomblyn M (2012). The role of bone-seeking radionuclides in the palliative treatment of patients with painful osteoblastic skeletal metastases. *Cancer Control*, **19**, 137-44.

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