

Introduction

- ✓ Cancer drug therapy has contributed to improving survival rates and prolonging life through the development of new anticancer drugs and molecular target drugs, the development of combination treatments with existing anticancer drugs, and the development of immunotherapy.
- ✓ However, various adverse events associated with it have also been recognized.
- ✓ Among these, peripheral neuropathy, including pain, hypoesthesia, and paresthesia in the extremities (chemotherapy-induced peripheral neuropathy (CIPN)), is an adverse event that significantly interferes with daily life, and is also harmful from both a physical and mental perspective.
- ✓ As a result, CIPN reduces patient's quality of life. However, the challenge is that there is still no established supportive treatment for CIPN.
- ✓ Currently, in Japan, mirogabalin is approved for use in treating peripheral neuropathic pain. We investigated the effects of mirogabalin in our department.

Methods

- ✓ A retrospective study was conducted in our department from October 2022 to November 2023 on 19 breast cancer patients who underwent drug therapy for cancer, noticed peripheral neuropathy as an associated adverse event, and received mirogabalin.
- ✓ Adverse events of mirogabalin were evaluated using the Common terminology criteria for adverse events version 5.0 (CTCAE ver.5).

Results

- ✓ Median age was 49 years (range 28-74 years).
- ✓ The regimens used were dose dense AC, dose dense paclitaxel, pembrolizumab + paclitaxel + carboplatin, TC, pertuzumab + trastuzumab + docetaxel therapy, and T-DM1.
- ✓ Five cases showed improvement from Grade 2 to Grade 1 or Grade 0 at the initial induction dose of 10 mg/day.
- ✓ When the dose was increased to 20mg/day, there were 4 patients who showed improvement to Grade 1 or Grade 0.
- ✓ Grade 2 was maintained at the dose of 10 mg/day, and 6 cases were tolerated.
- ✓ Grade 2 was maintained at the dose of 20 mg/day, and 2 cases were accepted.
- ✓ There were no cases in which the dose was increased to 30 mg.
- ✓ Drowsiness as an adverse event was not observed in any case.
- ✓ One patient was changed to an opioid preparation at her request, and the other patient was discontinued at her request.

Table 1. Background

No.	Age	Female	Subtype	Regimen	Number of CIPN expression regimens	Grade	Grade change after administration	Added prescription drugs
Patient 1	74	Male	TN	ddPTX	2	2	2	Oxycodone
Patient 2	69	Female	L-A	ddAC	4	2	2	No increase
Patient 3	49	Female	TN	PEMBRO+PTX+ CBDCA	2	2	2	No increase
Patient 4	45	Female	L-HER2	PER+HER+DTX	2	2	2	No increase
Patient 5	69	Female	TN	ddPTX	2	2	2	Canceled at request
Patient 6	43	Female	L-HER2	PER+HER+DTX	1	2	2	No increase
Patient 7	42	Female	L-B	ddPTX	4	2	1	No increase
Patient 8	39	Female	L-B	ddPTX	1	2	1	No increase
Patient 9	50	Female	L-A	ddAC	4	2	2	10mg→20mg
Patient 10	63	Female	TN	PEMBRO+PTX+ CBDCA	4	2	2	No increase
Patient 11	49	Female	TN	PEMBRO+PTX+ CBDCA	2	2	2	No increase
Patient 12	48	Female	L-A	ddPTX	2	2	1	No increase
Patient 13	67	Female	L-A	ddPTX	3	2	1	10mg→20mg
Patient 14	35	Female	L-A	ddPTX	1	2	0	No increase
Patient 15	54	Female	L-B	ddAC	4	2	0	10mg→20mg
Patient 16	64	Female	TN	ddPTX	1	2	0	10mg→20mg
Patient 17	59	Female	L-B	ddPTX	2	2	2	10mg→20mg
Patient 18	28	Female	L-B	ddPTX	2	2	0	10mg→20mg
Patient 19	44	Female	L-B	TC	5	2	1	No increase

L-A; Luminal A like, L-B; Luminal B like, L-HER2; Luminal HER2, TN; Triple Negative, dd; dose dense, PTX; Paclitaxel, PEMBRO; Pembrolizumab, HER; Trastuzumab, CBDCA; Carboplatin,

Figure1. Change in CIPN due to the effect of mirogabalin

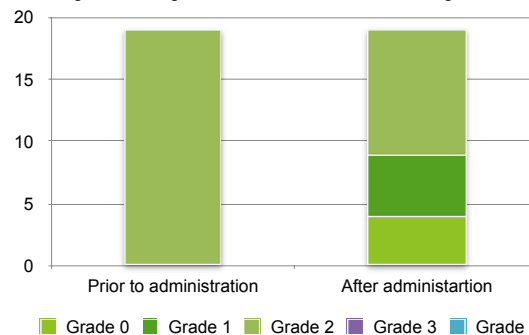
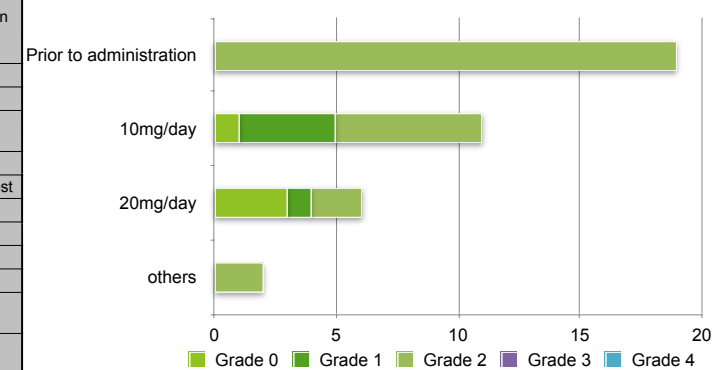


Figure2. Change in CIPN with increasing dose of mirogabalin



Conclusion

- ✓ CIPN causes abnormal sensations that interfere with daily life, and in severe cases, the patient may not be able to walk or put on or take off clothes.
- ✓ In addition, symptoms rarely improve immediately after stopping the drug.
- ✓ Many patients take months or years to recover, and it is not uncommon for patients to never recover.
- ✓ Domestic and international guidelines indicate gabapentin and pregabalin as the first-choice drugs for neuropathic pain, but compared to pregabalin, mirogabalin takes longer to dissociate from the $\alpha 2$ subunit, making it more analgesic.
- ✓ It has been suggested that it can be effective.
- ✓ This time, including cases in which the dose was increased, 50% of cases showed improvement in symptoms.
- ✓ Furthermore, no grade worsening was observed, and no decline in quality of life was observed due to continued chemotherapy.
- ✓ The results suggest that mirogabalin has rapid effects, improves QOL, and can help facilitate the smooth progress of cancer drug therapy.

References

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