Medroxyprogesterone acetate (MPA) maintenance therapy to treat recurrent endometrial cancer: case reports

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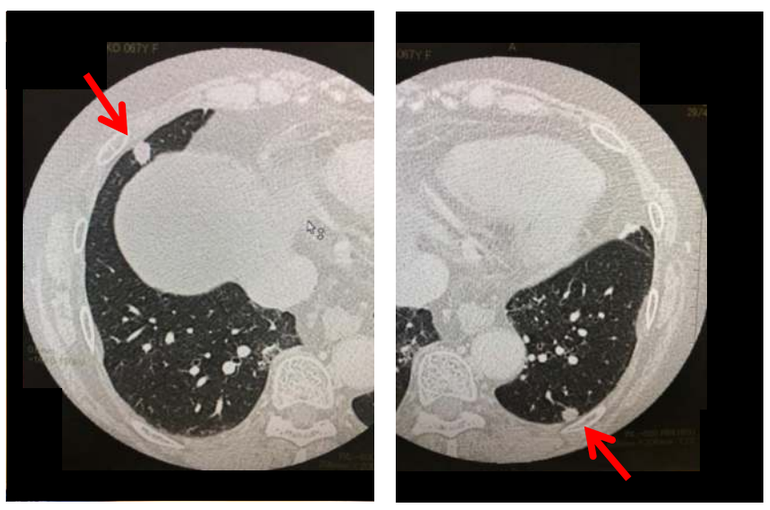
Introduction

The National Comprehensive Cancer Network (NCCN) guideline on the treatment of endometrial cancer recommends hormonal therapy in relapsed cases with positive hormone receptor status (estrogen/progesterone receptor).
In several recurrent endometrial cancer patients, 200 or 400 mg/day of medroxyprogesterone acetate (MPA) was administered as maintenance hormone therapy following chemotherapy.

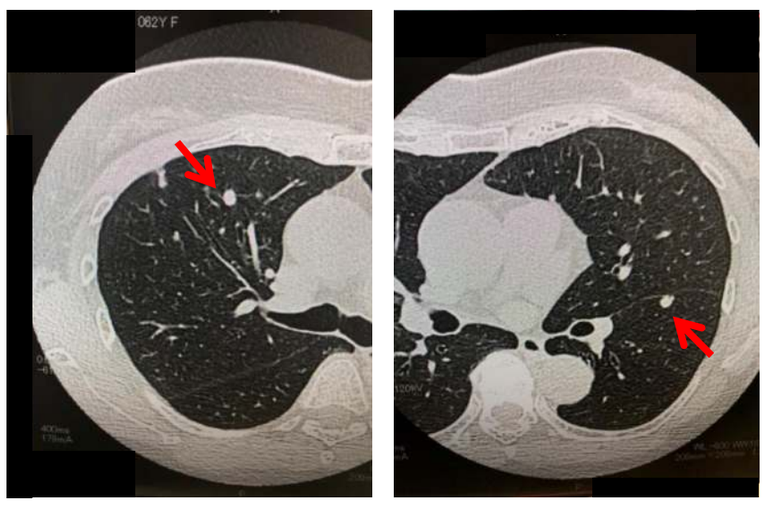
Case 1 60-year-old
•Endometrioid carcinoma G2, Stage IIIC, pT2N1M0
•Hormone receptor: positive
•Initial surgery: ATH + BSO + PLA + PALA
•Adjuvant therapy: paclitaxel plus carboplatin (TC) × 6
•Developed multiple lung metastases 24 months after initial surgery (Figure 1)
•Second-line (pirarubicin plus carboplatin × 6) and third-line (docetaxel plus carboplatin × 6) chemotherapies resulted in clinical complete response (cCR)
•MPA (200 mg/day) orally as maintenance therapy
•No serious adverse events
•Disease free for over 4 years

Figure 1



Case 2 65-year-old
•Endometrioid carcinoma G2, Stage II, pT2N0M0
•Hormone receptor: positive
•Initial surgery: ATH + BSO + PLA
•No adjuvant therapy
•Developed multiple lung metastases 29 months after initial surgery (Figure 2)
•Subsequent chemotherapy (TC × 8) resulted in cCR
•MPA (400 mg/day) orally as maintenance therapy
•No serious adverse events
•Disease free for over 2 years

Figure 2



Additional cases with MPA maintenance therapy

•**Case 3** 56-year-old
- Endometrioid carcinoma G2, Stage IB, pTIbN0M0
- Hormone receptor: positive
- Initial therapy: ATH + BSO + PLA + PALA, TC × 6
- Developed multiple lung metastases 8 years after initial surgery
- Subsequent chemotherapy (doxorubicin plus cisplatin × 8) resulted in cCR
- Recurrence with solitary pulmonary metastasis 10 months after
- Tumor resection (VATS)
- MPA (400 mg/day) orally as maintenance therapy
- No serious adverse events, disease free for over 20 months

•**Case 4 (advanced case)** 31-year-old
- Adenosquamous carcinoma, Stage IVB, T3aN1M1
- Hormone receptor: unknown
- Initial therapy: TC × 9 (cCR)
- Additional docetaxel plus carboplatin × 10
- MPA (400 mg/day) orally as maintenance therapy for 41 months
- No serious adverse events, disease free for over 9 years

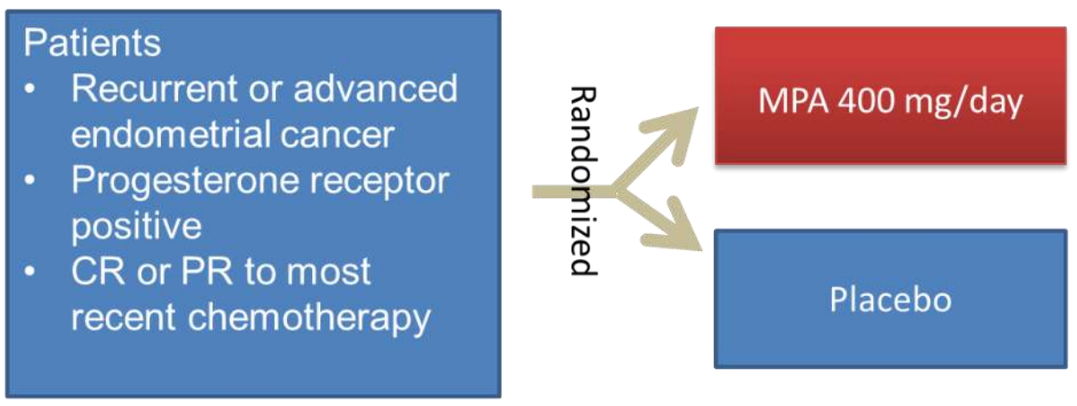
Action mechanism of MPA

Progesterone can effectively reduce the sulfuric acid ester content on the surface of cancer cells, inhibiting cancer cells and laminin binding, thus blocking the transfer pathway.
Progesterone directly inhibits DNA and RNA synthesis and the expression of cancer cells.

Discussion

Several retrospective studies have the efficacy of MPA for treating advanced or recurrent endometrial cancer. In these studies, MPA was given either as a single agent or in combination with conventional chemotherapy.
In our case series, four patients on MPA maintenance therapy were disease free for long periods.
However, effectiveness of MPA as a maintenance therapy is evidenced by a randomized control study.
A proposed prospective study design for MPA maintenance therapy is shown in Figure 3.

Figure 3.
MPA maintenance therapy: study design and patient selection



Conclusion

MPA maintenance therapy following chemotherapy should be considered for the treatment of recurrent endometrial cancer with positive hormone receptor.

We declare that there are no conflicts of interest.

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