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생존자 관리 및 삶의 질 관리

충남대학교병원

박미아

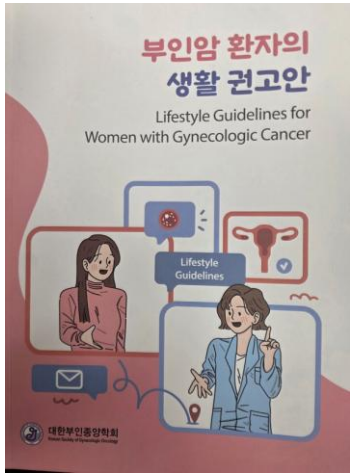
DECLARATION OF INTERESTS

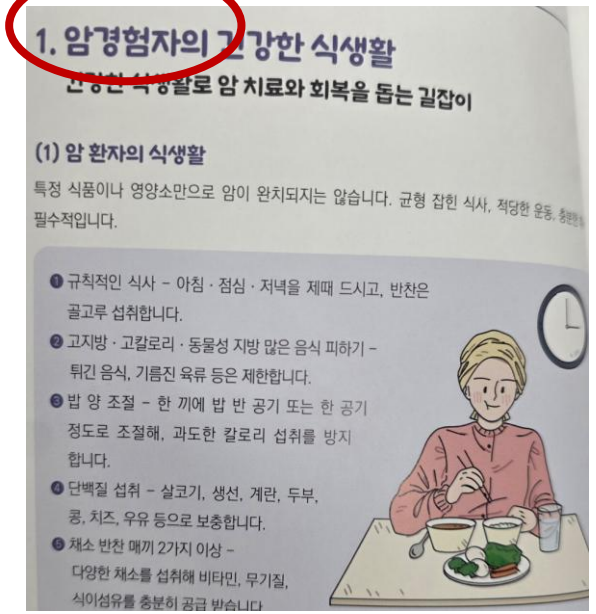
Nothing to declare

암 생존자(Cancer survival) : 암 진단 시점부터 생애 전 기간의 환자

- 치료 중이거나 유지치료를 받는환자
- 재발 · 전이암과 함께 살아가는 환자
- 치료 후 장기 생존자

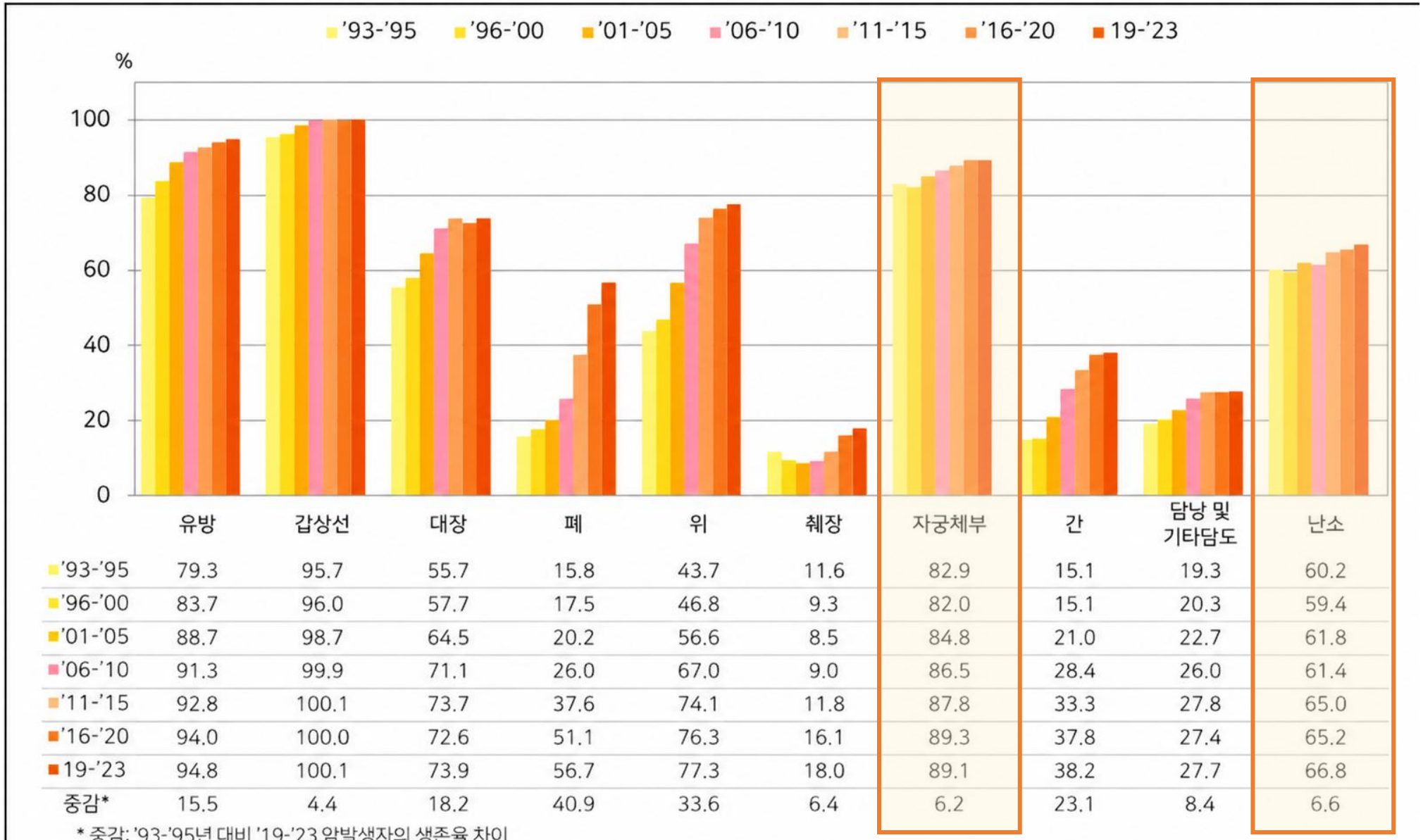
“survivor”, 용어 - 환자 선호 고려





생존자 진료의 평가

- **질병 상태: 재발 감시**와 암종별 추적 계획
- **치료의 영향:** 신체 증상, 심리적 부담, 일상·사회적 기능
- **장기 건강:** 동반질환, 이차암 예방, 건강행동과 예방접종



	유방	갑상선	대장	폐	위	췌장	자궁체부	간	담낭 및 기타담도	난소
'93-'95	79.3	95.7	55.7	15.8	43.7	11.6	82.9	15.1	19.3	60.2
'96-'00	83.7	96.0	57.7	17.5	46.8	9.3	82.0	15.1	20.3	59.4
'01-'05	88.7	98.7	64.5	20.2	56.6	8.5	84.8	21.0	22.7	61.8
'06-'10	91.3	99.9	71.1	26.0	67.0	9.0	86.5	28.4	26.0	61.4
'11-'15	92.8	100.1	73.7	37.6	74.1	11.8	87.8	33.3	27.8	65.0
'16-'20	94.0	100.0	72.6	51.1	76.3	16.1	89.3	37.8	27.4	65.2
19-'23	94.8	100.1	73.9	56.7	77.3	18.0	89.1	38.2	27.7	66.8
중감*	15.5	4.4	18.2	40.9	33.6	6.4	6.2	23.1	8.4	6.6

* 중감: '93-'95년 대비 '19-'23 암발생자의 생존율 차이

보건복지부·국립암센터 국가암 지식정보센터,

암 생존자(Cancer survival)

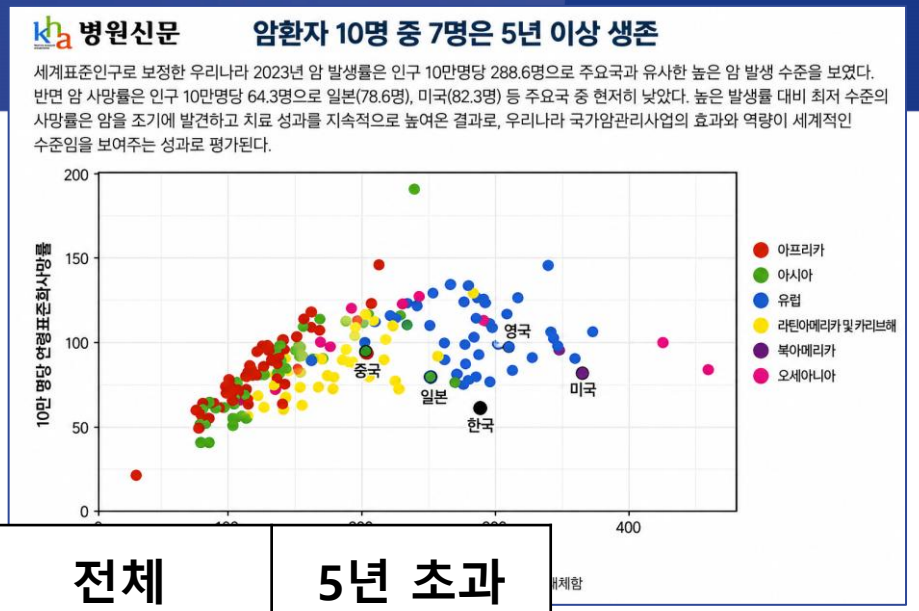


표 15. 진단 후 경과기간별 암유병자수, 2023년

단위: 명, %

국제질병분류 ICD-10	암종 Site	성 Sex	진단 후 경과기간 Elapsed period since diagnosis							
			1년 이하 year ≤1		1년 초과 2년 이하 1< year ≤2		2년 초과 5년 이하 2< year ≤5		5년 초과 year > 5	
			유병자수 Cases	백분율 %	유병자수 Cases	백분율 %	유병자수 Cases	백분율 %	유병자수 Cases	백분율 %
C53	자궁경부 Cervix uteri	계 T	2,999	1.2	2,792	1.2	7,683	1.4	51,964	3.1
		남 M	-	-	-	-	-	-	-	-
		여 F	2,999	2.4	2,792	2.5	7,683	2.6	51,964	5.1
C54	자궁체부 Corpus uteri	계 T	3,935	1.5	3,666	1.6	9,416	1.7	26,119	1.5
		남 M	-	-	-	-	-	-	-	-
		여 F	3,935	3.1	3,666	3.2	9,416	3.2	26,119	2.6
C56	난소 Ovary	계 T	3,044	1.2	2,718	1.2	6,528	1.2	18,704	1.1
		남 M	-	-	-	-	-	-	-	-
		여 F	3,044	2.4	2,718	2.4	6,528	2.2	18,704	1.9

전체 암 유병자	5년 초과 생존자(%))
65,438명	79.4%%
43,136명	60.6%
30,994명	60.3%

3개 부인암 139,568명 5년 초과 생존자 96,787명

부인암 **장기 생존자 증가**에 따른 **체계적 장기 건강관리의 중요성”**

2023년 국가암등록통계 연례보고서

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National Comprehensive Cancer Network®

NCCN Guidelines Version 3.2026
Survivorship

NCCN Guidelines Index
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Discussion

SURVIVORSHIP ASSESSMENT (Patient Version)
Please answer the following questions:

Survivorship Concerns	Survivorship Care Survey
Cardiac Health	1. Do you have shortness of breath or chest pain after physical activities (eg, climbing stairs) or exercise? Yes/No 2. Do you have shortness of breath when lying flat, wake up at night needing to get air, or have persistent leg swelling? Yes/No
Anxiety, Depression, Trauma, and Distress	3. In the past two weeks, have you been bothered more than half the days by little interest or pleasure in doing things? Yes/No 4. In the past two weeks, have you been bothered more than half the days by feeling down, depressed, or hopeless? Yes/No 5. Has stress, worry, anger, fear of recurrence, or distress about effects of cancer treatment interfered with your life? Yes/No
Cognitive Function	6. Do you have difficulties with multitasking or paying attention? Yes/No 7. Do you have difficulties with remembering things? Yes/No 8. Does your thinking seem slow? Yes/No
Fatigue	9. Do you feel persistent fatigue despite a good night's sleep? Yes/No 10. Does fatigue interfere with your usual activities? Yes/No 11. How would you rate your fatigue on a scale of 0 (none) to 10 (extreme) over the past week? 0–10
Lymphedema	12. Since your cancer treatment, have you had any swelling, fatigue, heaviness, or fullness on the same side as your treatment that has not gone away? Yes/No
Pain	13. Have you had any pain in the past week? Yes/No 14. How would you rate your pain on a scale of 0 (none) to 10 (extreme) over the past week? 0–10
Hormone-Related Symptoms	15. Have you been bothered by hot flashes/night sweats? Yes/No 16. Have you been bothered by other hormone-related symptoms (ex, vaginal dryness, erectile dysfunction, urinary incontinence)? Yes/No
Sexual Health	17. Do you have any concerns regarding your sexual function, sexual activity, sexual relationships, or sex life? Yes/No 18. Are these concerns causing you distress? Yes/No
Fertility	19. Do you have concerns about fertility or family planning? Yes/No
Sleep Disorder	20. Are you having problems falling asleep, staying asleep, or waking up too early? Yes/No 21. Are you experiencing excessive sleepiness (ie, sleepiness or falling asleep in inappropriate situations or sleeping more during a 24-hour period than in the past)? Yes/No 22. Have you been told that you snore frequently or that you stop breathing during sleep? Yes/No
Healthy Lifestyle	23. Do you engage in regular physical activity or exercise, such as brisk walking, jogging, weight/resistance training, bicycling, swimming, etc? Yes/No ▸ 23a. If you answered "Yes," how often? 24. Excluding white potatoes, do you fill at least half of your lunch and dinner plate with fruits and/or vegetables each day? Yes/No 25. Do you have concerns about your weight? Yes/No 26. Do you take vitamins or other supplements? Yes/No
Immunizations and Infections	27. Have you received your flu vaccine this flu season? Yes/No 28. Are you up to date on your vaccines? Yes/No/Don't know
Employment/Return to Work	29. Do you have concerns about how cancer and/or cancer therapy has affected your ability to work? Yes/No

Contents

부인암 생존자의 건강 및 삶의 질 관리 *Health and Quality of Life in Gynecologic Cancer Survivors*

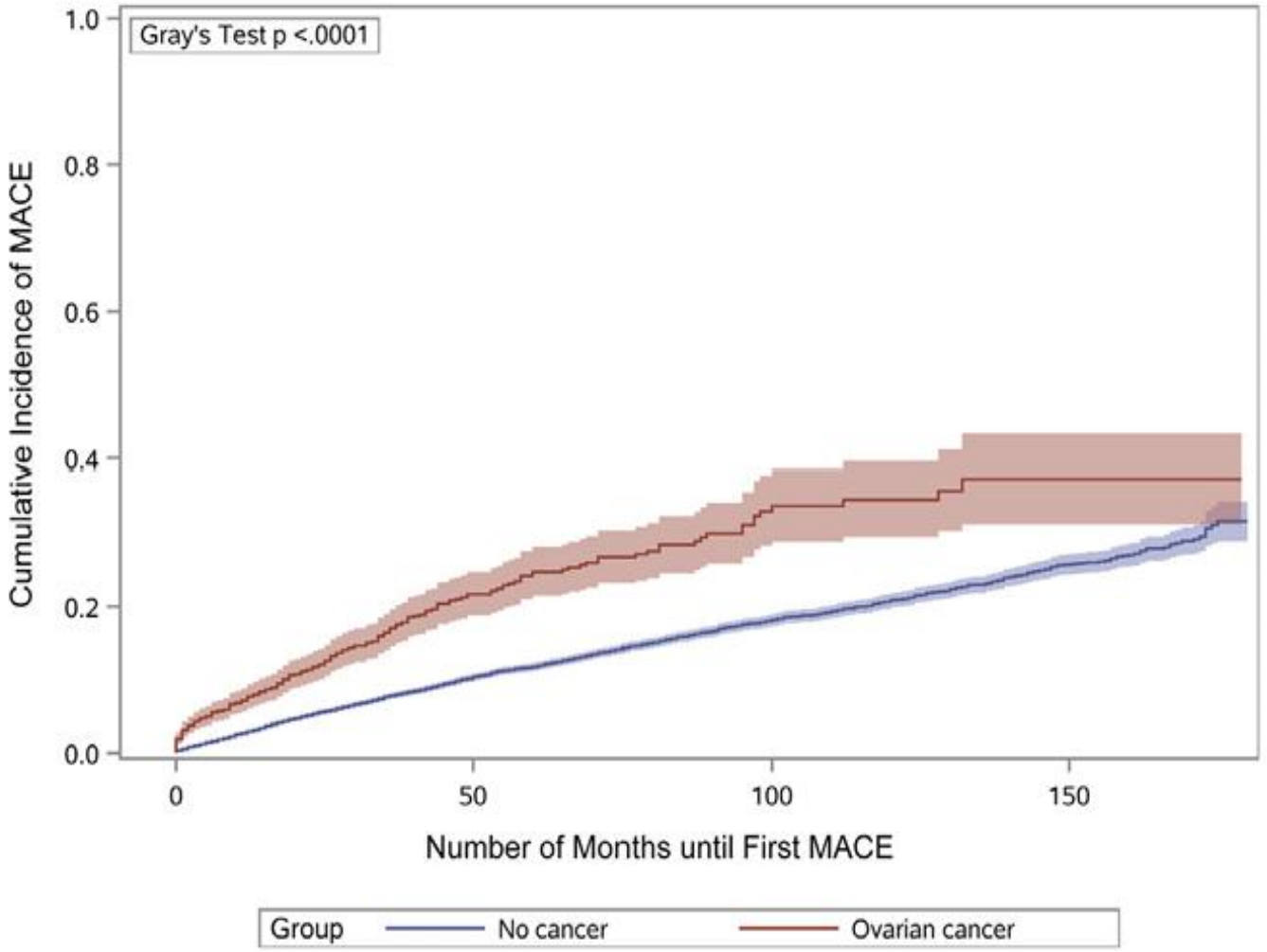
1. 심혈관 위험 평가 및 관리
(*Cardiovascular Risk Assessment and Management*)

2. 부인암 경험자의 폐경 호르몬치료
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(Menopausal Hormone Therapy in Gynecologic Cancer Survivors: Evidence and Clinical Practice)

난소암 경험자에서 Major Adverse Cardiovascular Events (MACE)



- 생존기간 ↑ → 심혈관질환 **장기 morbidity**
- Major adverse **cardiovascular event**

  3년 17.1% vs 12.9%,

  5년 24.8% vs 18.6%

- Matching 후에도 위험 증가

  HR 1.33 (95% CI 1.14–1.56)

- Subgroup analysis

<55세 HR 1.95 **heart failure ↑**

AlAshqar et al. Gynecologic Oncology 2026;211:17–22

ORIGINAL RESEARCH

Leading causes of death after a diagnosis of endometrial cancer: a systematic review and meta-analysis



Heather J. Agnew[a,b], Holly Baker-Rand[b], Sarah J. Kitson[a,b], Emma J. Crosbie[a,b,*]

Received 14 November 2024, Accepted 4 May 2025; Available online 10 May 2025

Table 2 Mortality Rates in Patients With Endometrial Cancer

Overall mortality rates					
Mortality rates per 1000 person years (95% CI)	**Overall**	**Endometrial cancer**	**Combined non-endometrial cancer**	**Cardiovascular disease**	**Other cancer**
	27.8 (18.6 to 37.0)	10.7 (7.4 to 14.1)	15.1 (11.5 to 18.8)	7.4 (5.8 to 8.9)	5.5 (4.1 to 6.9)
Mortality rates by ethnicity					
White	24.9 (24.6 to 25.2)[b]	18.3 (18.1 to 18.5)[b]	6.7 (6.6 to 6.7)[b]	2.5 (2.2 to 2.3)[b]	1.5 (1.5 to 1.6)[b]
Black	47.9 (46.4 to 49.4)[b]	38.4 (37.2 to 39.6)[b]	9.5 (9.2 to 9.8)[b]	3.4 (3.3 to 3.5)[b]	1.8 (1.8 to 1.9)[b]
Other[a]	21.2 (20.1 to 21.8)[b]	16.4 (15.9 to 16.8)[b]	4.9 (4.7 to 5.0)[b]	1.7 (1.7 to 1.8)[b]	1.0 (1.0 to 1.1)[b]
Mortality rates by stage					
Mortality rates per 1000 person years (95%CI)	Overall	Endometrial cancer	Combined non-endometrial cancer	Cardiovascular disease	Other cancer
Local (stages I-II)	13.3 (9.3 to 17.3)	6.5 (4.3 to 8.7)	6.8 (5.0 to 8.7)	1.2 (0.1 to 2.3)[c]	2.0 (0.5 to 3.5)[c]
Advanced (stages III-IV)	71.4 (57.8 to 85.1)	61.7 (51.7 to 71.7)	9.4 (5.8 to 13.0)	2.8 (2.7 to 2.8)[c]	3.6 (0.5 to 6.8)[c]

자궁내막암 생존자 323,551명 meta-analysis

진단 5년 이후

Cardiovascular 5.2명 vs EC 1.6명

Deaths per 1,000 person-years

→ **재발 감시와 심혈관 위험인자 평가포함 survivorship care가 필요**

Agnew HJ, Baker-Rand H, Kitson SJ, Crosbie EJ. Int J Gynecol Cancer. 2025;35(7):101926

Table 1 Antitumoral drugs related to myocardial toxicity, its pathologic mechanisms, and incidence of heart failure

Antitumoral agent	Mechanism theories	Epidemiology
Anthracycline chemotherapy (doxorubicin, epirubicin, daunorubicin, idarubicin)	Cardiomyocyte death trough oxidative stress, DNA damage and mitochondrial impairment	3–5%; with liposomal anthracyclines 2%
Alkylating agents (cyclophosphamide, melphalan)	Oxidative stress and endothelial dysfunction	Up to 28% (cyclophosphamide > ifosfamide)
Fluoropyrimidines (5-fluorouracil, capecitabine)	Vasospasm, myocardial inflammation	Up to 18%
Taxanes (docetaxel, paclitaxel)	Fluid retention, abnormal calcium homeostasis	2.3–8%
Proteasome inhibitors (carfilzomib, bortezomib, ixazomib)	Ventricular dysfunction/congestive heart failure, arterial hypertension, endothelial dysfunction, ischaemic cardiomyopathy	2–5%
mTOR inhibitors (everolimus)	Dysregulation of the PI3K–AKT–mTOR pathway	Reported odds ratio: 2.12
HER2-targeted therapies (trastuzumab, pertuzumab, trastuzumab emtansine [T-DM1], lapatinib, neratinib, tucatinib)	Down-regulation of protective intracellular pathways (NRG-1, RASRAF or PI3K–AKT–mTOR) against oxidative stress, apoptosis and mitochondrial function impairment	Up to 28% if with anthracyclines (trastuzumab > lapatinib and pertuzumab)
Anti-EGFR/HER1 (osimertinib)	Unclear, partial inhibition of HER2 pathway	4–5%
Multi-targeted kinase inhibitors BCR-ABL TKIs (ponatinib, nilotinib, dasatinib, bosutinib)	Off target down-regulation of cardiomyocyte growth and survival pathways	2–5
VEGF inhibitors TKIs (sunitinib, pazopanib, sorafenib, axitinib, ivocizanib, cabozantinib, regorafenib, lenvatinib, vandetanib) and antibodies (bevacizumab, ramucirumab)	Impairment of mitochondrial function and inhibition of the AMP–kinase pathway Coronary disease and myocardial ischaemia	Up to 4%
Combination RAF and MEK inhibitors (dabrafenib + trametinib, vemurafenib + cobimetinib, encorafenib + binimetinib)	Inhibition of MEK/ERK pathway in the cardiomyocyte	29%
Immune checkponit inhibitors Anti-PD1 (nivolumab, pembrolizumab) Anti-CTLA4 (ipilimumab) Anti-PD-L1 (avelumab, atezolizumab, durvalumab)	Impairment of immunological homeostasis in the myocardium, autoimmunity against cardiomyocytes or endothelial cells	3.5%
CAR-T cells (tisagenlecleucel, axicabtagene)	Cytokine releasing syndrome and unclear off-target effects of CAR-T or lymphodepletion	Up to 30%
Radiotherapy	Cardiomyocyte death through direct cardiomyocyte toxicity (oxidative stress, DNA damage) and development of coronary atherosclerosis and fibrosis in cardiac valves and pericardium	Up to 10%

추가 고려: PARP inhibitor – niraparib (hypertension)

European Journal of Heart Failure (2025) 27, 2084–2099
doi:10.1002/ejhf.3753

Cancer therapy related cardiovascular toxicity

Treatment	투약 전 평가	주요 심혈관 독성	핵심 모니터링
Anthracyclines Doxorubicin / PLD(Pegylated Liposomal Doxorubicin)	ECG, TTE (LVEF·GLS)	좌심실 기능저하 심부전	Doxorubicin **누적 ≥250 mg/m²**: 위험도별 TTE 고려 종료 후 12개월 이내 TTE. **PLD>450 mg/m²: 매 투여 전 LVEF 평가(EMA)**.
HER2 therapies Trastuzumab / T-DXd(Enjertu)	ECG, LVEF ± GLS	좌심실 기능저하 심부전	첫 1년: **3개월마다 TTE** 1년 이후: 6개월 간격, **고위험군 간격조정**
VEGF inhibitors Bevacizumab / Lenvatinib	BP, ECG (QTc) 고·초고위험군 TTE	고혈압, 허혈·혈전 심부전, QT 연장	**BP**: 첫 주기·증량 후 매일, 이후 2–3주마다 **QT 위험** 중등도·고위험군: **ECG 매월** ×3개월, 이후 3–6개월
ICIs Pembrolizumab / Dostarlimab	ECG, cTn 고위험군 TTE	심근염, 부정맥 전도장애, 심부전	**ECG·cTn: 2·3·4회 투여 전**, 이후 **3주기**마다 고려 심근염 의심 시 ICI 보류 및 즉시 심장 평가
Niraparib	BP, HR 고혈압·심질환	고혈압, 빈맥	**BP·HR: 첫 2개월 최소 매주**, 첫 1년까지 **매월,** 이후 주기적 평가
Platinum agents Cisplatin / Carboplatin	신기능, Mg·K 심혈관·혈전 위험	혈관독성·혈전색전증 전해질 이상성 부정맥	**신기능**·Mg·K 추적, 허혈·혈전 증상 감시
Taxanes Paclitaxel / Docetaxel	심혈관 병력 필요 시 ECG	서맥·부정맥 드물게 심근허혈	**주입 중 활력징후** 관찰 증상·기저 심질환에 따라 ECG 평가

TTE (Transthoracic Echocardiography), **GLS (Global Longitudinal Strain):** 전반적 종축 변형률, BP: 혈압 CV: 심혈관

2022 ESC Cardio-Oncology Guideline , FDA Enhertu Label (2025)

심혈관 위험관리

시점	
치료 종료 시	**심혈관 독성 약물 누적 용량, 흉부 포함 방사선 여부, survivorship care plan에 기록**
매 방문	혈압 · BMI · 허리둘레. 호흡곤란, 흉통, 하지부종 문진
연 1회	지질, 공복혈당 또는 HbA1c, 금연 확인
진단 5년 시점	심혈관 대사 위험관리 필요성 설명
	혈전 위험을 별도 고려 — 장거리 비행 · 부동자세 전 상담, 하지부종과 호흡곤란 교육
증상 발생 시	심장내과 의뢰.

Felix AS, et al. Int J Cancer. 2017;140(3):555–564 · Agnew HJ, et al. Int J Gynecol Cancer. 2025;35(7):101926

1. 심혈관 위험 평가 및 관리
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- 부인암 생존자의 **40–60%에서 premature menopause** 경험

급격한 estrogen decline 증상이 더 심하고 **QOL에 더 부정적영향**.

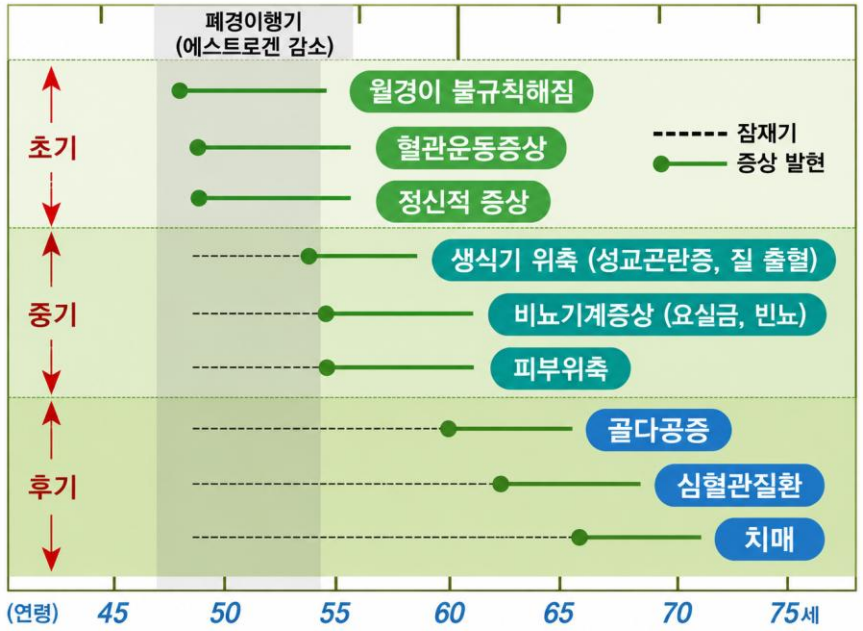


TABLE 1 Menopausal symptoms and long-term health effects of treatment-induced menopause in gynecologic cancer survivors.[a]

Domain	Clinical manifestation	Estimated prevalence in cancer survivors	Clinical impact
Vasomotor	Hot flushes, night sweats	60%–80%	Sleep disruption, reduced QOL
Genitourinary	Vaginal dryness, dyspareunia, urinary urgency	40%–70%	Sexual dysfunction, GSM
Sexual health	Decreased libido, arousal disorders, anorgasmia	40%–70%	Relationship impairment, psychological distress
Psychological	Anxiety, depression, fear of recurrence, mood changes	Up to 50%	Reduced adherence to cancer treatment, impaired coping
Sleep	Insomnia, poor sleep quality	Up to 50%	Fatigue, cognitive impairment
Musculoskeletal	Arthralgia, myalgia	Variable	Reduced physical function
Bone health	Accelerated bone loss, osteopenia, osteoporosis	Increased risk with premature menopause	Fracture risk, disability
Cardiovascular	Dyslipidemia, endothelial dysfunction	Increased risk with premature menopause	Elevated cardiovascular morbidity and mortality
Cognitive	Memory complaints, brain fog	Variable	Reduced work capacity, QOL

Abbreviations: GSM, genitourinary syndrome of menopause; QOL, quality of life.

FIGO Committee on Women at Menopausal Age. *Menopausal hormone therapy and comprehensive postmenopausal care in gynecologic cancer survivors: A position paper.* Int J Gynaecol Obstet. 2026.

JAMA Network Open

Original Investigation | Women's Health

Age at Iatrogenic Menopause and Cardiovascular Morbidity and Mortality
A Systematic Review and Meta-Analysis

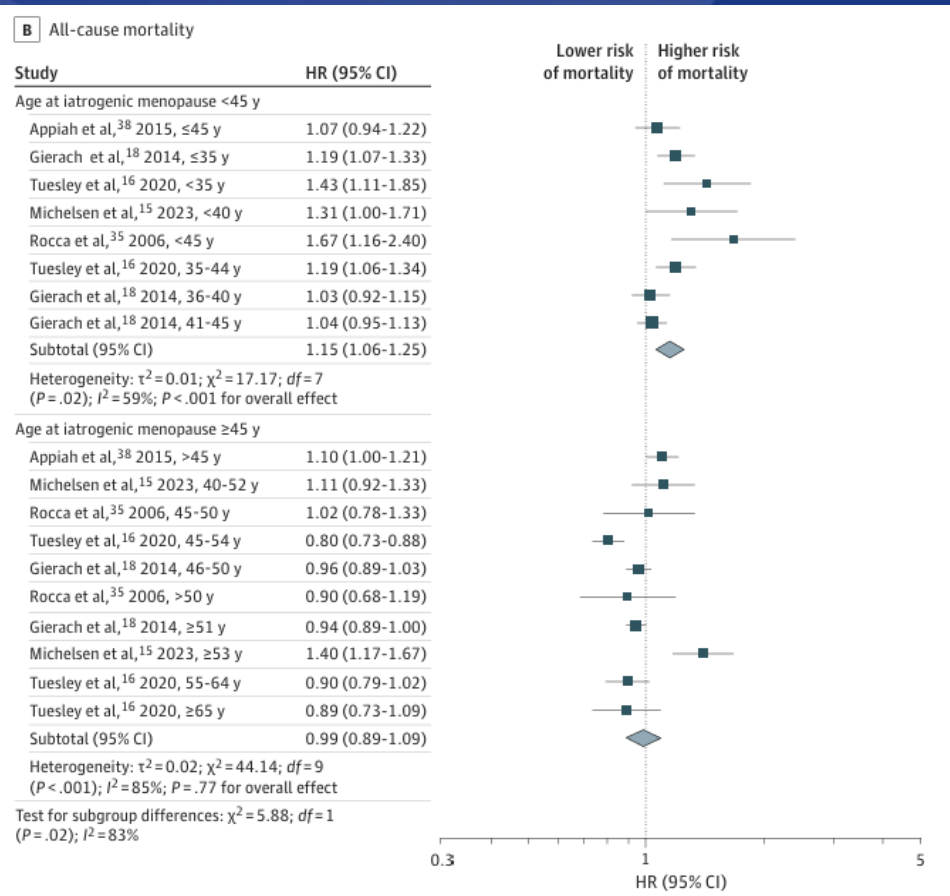
Eleni Armeni, PhD; Ipek Betul Ozcivit Erkan, PhD; Punith Kempegowda, PhD

36 studies, 261만명

Iatrogenic menopause <45세

Cardiovascular mortality **HR 1.20** (95% CI 1.04–1.37)

All-cause mortality **HR 1.15** (95% CI 1.06–1.25)



Early surgical menopause는 cardiovascular mortality 및 all-cause mortality 증가

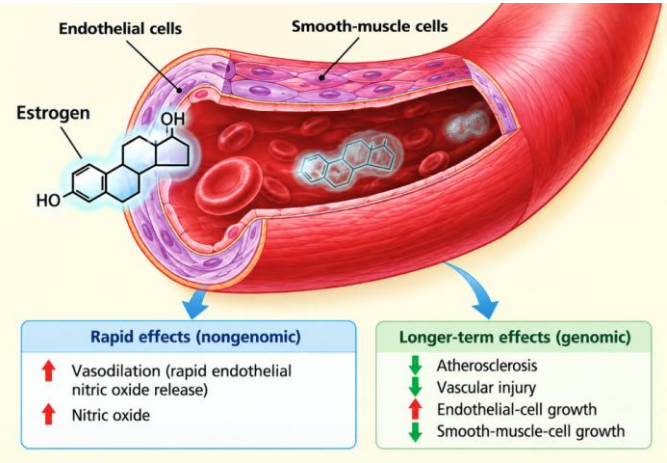
→ 단순 폐경증상 조절을 넘어, **장기적인 심혈관위험 고려** comprehensive survivorship care 필요

2026 FIGO–IMS: A New Paradigm for POI

POI = Chronic endocrine condition

& a sentinel event for long-term health risks

- **Bone health** → accelerated bone loss / osteoporosis
- **Cardiovascular health** → increased long-term CV risk
- **Cognitive & sexual health**



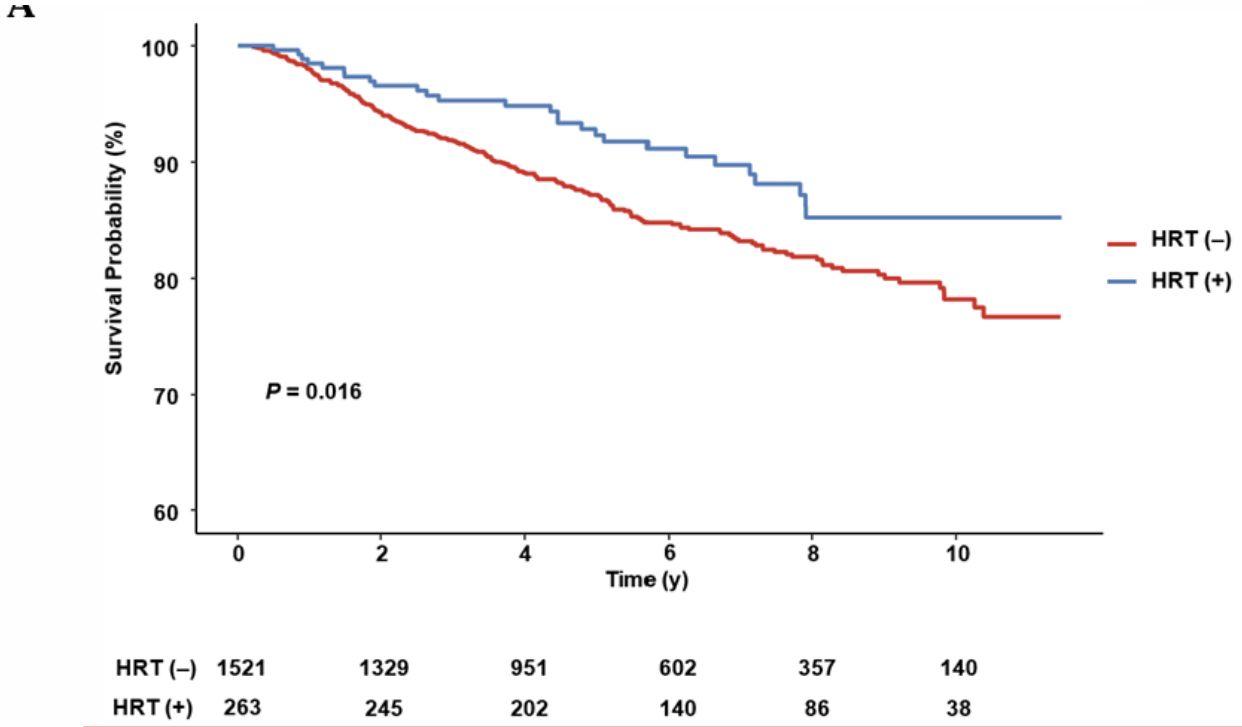
Overall health에 영향을 미치는 장기적 estrogen deficiency

kayacik AD, Kok G. *Support Care Cancer.* 2025;33:683.

Article

Postoperative Hormone Replacement Therapy and Survival in Women with Ovarian Cancer

Eunjeong Ji [1,†], Kidong Kim [2,†], Banghyun Lee [3,*], Sung Ook Hwang [3], Hee Joong Lee [4], Kyungjin Lee [3], Minkyung Lee [3] and Yong Beom Kim [2]



국내 건강보험심사평가원(HIRA)

2009–2018년 19–60세 난소암 환자 **1,784명**

평균 연령 약 **41세**, 평균 추적 기간 **5.6년**

HRT (+) adjusted **HR 0.618**
(95% CI 0.414–0.922)

HRT 사용은
lower all-cause mortality와 유의하게 연관

HRT 처방율 263명 / 1,784명(**14.7%**)

난소암 생존자에서 호르몬치료 장기 oncologic safety

Oncologic safety에 대한 우려 → **HRT 필요성 과소평가 및 낮은 처방률 (undertreatment)**

Ji E, et al. Cancers. 2022;14:3090.

Received: 27 March 2026 | Revised: 13 May 2026 | Accepted: 9 June 2026 | Published online: 22 July 2026

DOI: 10.1002/ijgo.71188

SPECIAL ARTICLE

Menopausal hormone therapy and comprehensive postmenopausal care in gynecologic cancer survivors: A position paper from the FIGO Committee on Women at Menopausal Age

Agnaldo Lopes da Silva-Filho[1,2] | [illegible][2,3,4] | [illegible][5,6] |
Chiara Benedetto[2,7] | Andrea R. [illegible]
Elizabete Argale[2,12] | Enrique He[illegible]

REVIEW

Hormone replacem[illegible] cancer survivors: b[illegible] evidence and clinic[illegible]

Blanca Gil-Ibáñez[a,b,1,*], Ana Luzarraga Aznar[c,1], M. Pilar Barretina-Ginesta[d], Nuri Quer[e], Pedro T. Ramirez[f]

Received 14 July 2026, Accepted 17 July 2026; Available online xxx

REVIEW

Hormone replacement therapy in gynecologic cancer: oncologic safety and alternative therapies

[illegible],

https://doi.org/10.6118/jmm.25103
J Menopausal Med 2025;31:53-84

OF MENOPAUSE PAGES

[illegible]uidelines

- Korean Society of Menopause

Youjin Kim[1], Moon Kyoung Cho[2], Youn-Jee Chung[3], Seung-Hwa Hong[4], Kyu Ri Hwang[5], Gyun-Ho Jeon[6], Jong Kil Joo[7], Seul Ki Kim[8], Dong Ock Lee[9], Dong-Yun Lee[10], Eun Sil Lee[11], Sa Ra Lee[12], Seok Kyo Seo[13], Jae Yen Song[3], Kyong Wook Yi[14], Bo Hyon Yun[13], Ji Yeon Han[15], Da Hyun Kim[16], Sung Eun Kim[10], Jisun Lee[17], Jin-Sung Yuk[18], Yeon Hee Hong[8], Sungwook Chun[6], Mee-Ran Kim[3]; Publication Committee on Clinical Guidelines of the Korean Society of Menopause 19

부인암 경험자 호르몬치료의 일률적 금기 x

암종과 조직형, hormone sensitivity에 따라

oncologic safety를 개별적 평가

WHI(2002) 발표 이차분석

2025 | WHI 2차 분석

VMS 동반 여성의
죽상경화성 심혈관질환(ASCVD) 위험

50–59세

CEE 단독	**HR 0.85**	(95% CI 0.53–1.35)
CEE + MPA	**HR 0.84**	(95% CI 0.44–1.57)

유의한 위험 증가 없음

70–79세

CEE 단독	**HR 1.95**	(95% CI 1.06–3.59)
CEE + MPA	**HR 3.22**	(95% CI 1.36–7.63)

위험 유의하게 증가

2026 | FDA 경고문 개정

Boxed warning에서 삭제

심혈관질환 · 유방암 · probable dementia

2025.11 개정 요청

→ 2026.02 최초 6개 제품 변경 승인

JAMA Internal Medicine. 2025;185(11):1330–1339.

폐경 평가

임상 상황	진단
양측 난소절제술(**BSO**)	**영구적 외과적 폐경**
40세 미만, **4개월 이상 무월경** + **FSH >25 IU/L** (×2, ≥4 weeks apart)	POI 진단 가능(**Non-iatrogenic POI**)
항암치료 후 12개월 무월경 + FSH 상승	**난소기능부전 강하게 시사**
항암치료 후 2년 이상 무월경 + 반복 FSH 상승/E2 감소(E2 <20 pg/mL)	장기 난소기능부전 가능성매우 높음 (회복 가능성 완전 배제할 수 없음)
GnRH agonist , Tamoxifen, Aromatase inhibitor 투약 중 무월경	약물에 의한 난소기능 억제 가능성

- AMH (Anti-Müllerian hormone): **Ovarian reserve(난소예비력)**를 반영하나 난소기능 회복 예측 marker아님.
- chemotherapy 후 난소기능 일시억제라면 **첫 2년간 회복(90.0%)**
- **Permanent menopause 확진 필수적 이지 않음**

  Menopausal symptoms + amenorrhea → FSH (± E2)로 ovarian insufficiency 확인

  → oncologic contraindication이 없다면 HRT 고려

Panay N, et al. *Hum Reprod Open.* 2024;2024:hoae065. International POI Guideline , *Fertility and Sterility.* 2016;105(3):765–772.e4.

MHT Risk Assessment

Risk domain	Key assessment points
① Oncologic risk	Cancer histology · hormonal sensitivity
② VTE risk	Prior DVT/PE · thrombophilia · family history **비만**·흡연·**부동**·최근 수술·**활동성 암**
③ Cardiovascular risk	Prior MI / stroke / CAD · BP · DM · dyslipidemia **60세 미만, 폐경 10년 이내시작 benefit risk profile favorable** ·현재 혈관독성 치료
④ Contraindications	**유방암** 병력, **중증 간질환**
⑤ Patient & treatment	자궁 유무 · 자궁내막증 병력, POI 여부

VTE: venous thromboembolism DVT/PE: deep vein thrombosis / pulmonary embolism CAD: coronary artery disease POI: premature ovarian insufficiency

FIGO Committee on Women at Menopausal Age. 2026 (PMID:42483786). Panay N, et al. Hum Reprod Open. 2024;hoae065. Gorman M, Shih K. 2025;26:179–186.

HRT during active systemic therapy

Systemic treatment	주요 issue	Clinical approach	Vag. estrogen
Chemotherapy ± Bevacizumab	Additive thrombotic & cardiovascular risk	**Non-hormonal therapy 우선** **thrombotic risk가 낮은 selected patient에서 MHT 고려**	**사용 가능**
PARP inhibitor	Theoretical CYP3A4 interaction + toxicity overlap	**병용 가능.** **BP · CBC · LFT** 확인 → PARPi-specific toxicity monitoring. **Grade ≥2 persistent toxicity, uncontrolled HTN, significant LFT abnormality** 시 재평가	
Immune checkpoint inhibitor	Endocrine irAE와 diagnostic overlap	**병용 가능** new symptoms 발생 시 thyroid · pituitary · adrenal dysfunction 평가	

Gil-Ibáñez B, et al. *Int J Gynecol Cancer.* 2026.

Individualized decision

Histology-specific MHT ① | 자궁·자궁경부·외음부암

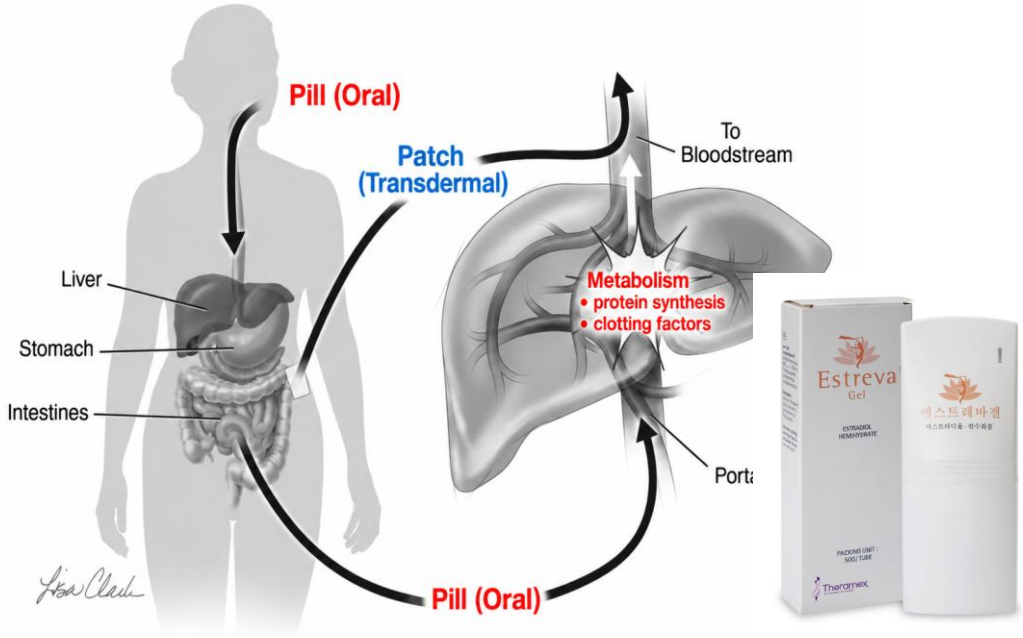
Cancer type / Histology	FIGO 2026	BGCS–BMS 2024	IJGC 2026	Clinical interpretation
Cervical SCC / Vulvar·Vaginal SCC	가능	가능	가능	Non–hormone-dependent SCC
Cervical adenocarcinoma	신중	별도언급 없음	별도언급 없음	IJGC와 BGCS–BMS all hisgologic 가능, **adenocarcinoma 별도언급 없음.**
Stage I-II, grade1-2 endometrioid EC	고려가능	가능	가능	GOG RCT: 초기 병기 중심
High-risk EC, ER/PR(–)	금기	개별 판단	근거 부족	HR 음성만으로 안전성 확립 안 됨
High-risk EC, ER/PR(+) / Advanced EC	금기	권고 안 함	근거 부족	
Low-grade endometrial stromal sarcoma	금기	권고 안 함	권고 안 함	Hormone-responsive tumor
Uterine leiomyosarcoma (uLMS)	일반적 회피	권고 안 함	ER/PR(+) 회피	ER/PR(–)에서도 안전성 자료 부족

Histology-specific MHT ② | 난소암

Cancer type / Histology	FIGO 2026	BGCS–BMS 2024	IJGC 2026	Clinical interpretation
High-grade serous	가능	개별 판단	Regardless of histologic subtype	RCT는 EOC 전체 대상; subtype 분석 제한고려
Clear cell	가능	가능		Endometriosis-associated; , Estrogen R(-)
Mucinous	가능	가능	EOC	No established hormone-dependent biology
Endometrioid	별도 언급없음	Stage I 가능	HRT 가능	BGCS: stage I 가능 / II–IV 개별 판단
Low-grade serous	금기	Stage I 개별판단	권고 안 함	BGCS: stage I 개별 / II–IV 비권고
Granulosa cell tumor	금기	Stage I 개별판단	권고 안 함	BGCS: stage I 개별 / II–IV 비권고
Germ cell tumor	가능	가능	언급 없음	
Borderline tumor(mucinous)	고려가능	Regardless of histologic subtype	언급 없음	
Borderline tumor,(serous)	신중	No residual : 가능 High risk feature: 신중	언급 없음	High risk : implants · micropapillary · residual/recurrence

처방 — 경로, 용량

항목	내용
시작 용량	Transdermal estradiol 25–37.5 μg/일
유지 용량	Transdermal estradiol 25–100 μg/일 경구 estradiol 0.5~1mg/일
POI (<40세) 유지용량	Transdermal estradiol 100 μg/일 이상 or 경구 estradiol 2 mg/일 이상
자궁 보존 시	Micronized progesterone 100–200 mg 취침 시, 또는 LNG-IUS





최소 유효 용량 사용

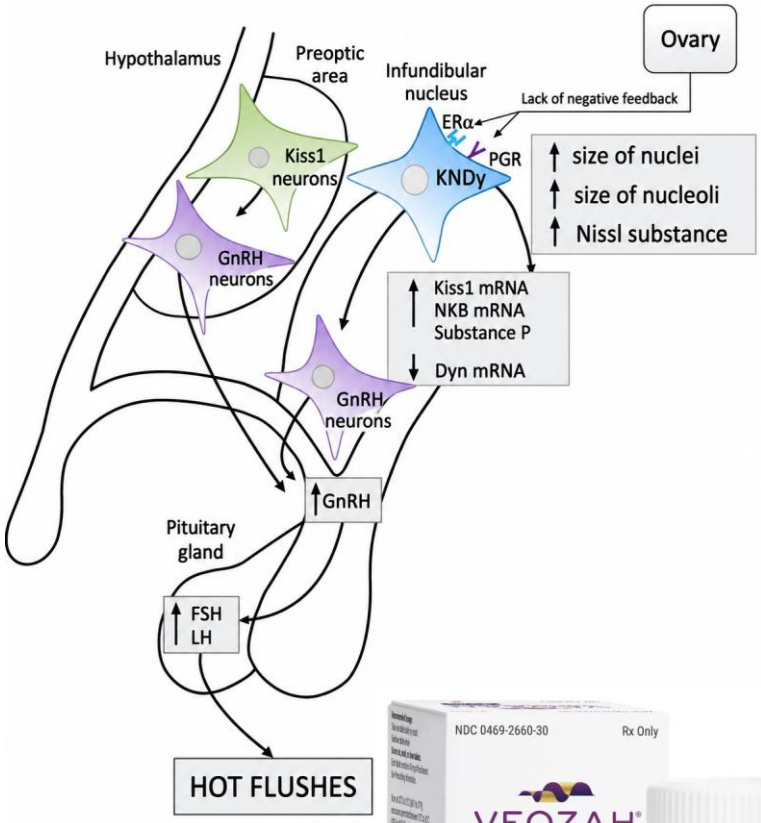
* Tibolone은 권고하지 않는다.

FIGO 2026 position paper · ESHRE POI guideline 2024 · The Menopause Society nonhormone position statement 2023 · 대한폐경학회 2025

Safe alternatives 비호르몬 약제

치료	타겟 증상	효과	
Venlafaxine (SNRI)	VMS	안면홍조 빈도 약 50–60% 감소	First non hormonal options 기분 및 수면 증상 호전
Escitalopram / paroxetine (SSRI)	VMS	약 40–50% 감소	Tamoxifen 복용 시 paroxetine은 CYP2D6 억제
Gabapentin / pregabalin	VMS, 수면장애	약 45–55% 감소; 특히 야간 증상	야간 증상에 유용, 졸림·어지러움주의
Clonidine	VMS	약 25–30% 감소, 효과 제한적	저혈압 등 부작용
Oxybutynin	VMS	일부 RCT에서 약 70% 감소	항콜린성 부작용

Safe alternatives 비호르몬 약제





Estrogen withdrawal → 시상하부 **KNDy neurons** 활성 증가

→ **Neurokinin B signaling** 증가 → **thermoneutral zone** 축소

→ 작은 체온 변화에도 **hot flushes & night sweats** 발생

NK3 receptor antagonist **(fezolinetant, elinzanetant)**	KNDy 경로 표적 중등도–중증 vasomotor symptoms **QOL , 수면 개선** **유방 및 자궁내막 자극 x,** 간기능 모니터

da Silva-Filho AL, et al. *Int J Gynaecol Obstet.* 2026;174:1151–1171.
Gil-Ibáñez B, et al. *Int J Gynecol Cancer.* 2026. doi:10.1016/j.ijgc.2026.104881.

투약 기간

POI (<40 yr)

증상 유무와 관계없이 bone & cardiovascular health 위해

평균 natural menopause age (약 50–51세)까지 권고

폐경 증상 평가척도(MRS) 또는

폐경 관련 삶의 질 척도(MENQOL)활용

자연폐경 연령 도달 후

증상, 골건강, 개인별 risk 재평가 **individualized decision**

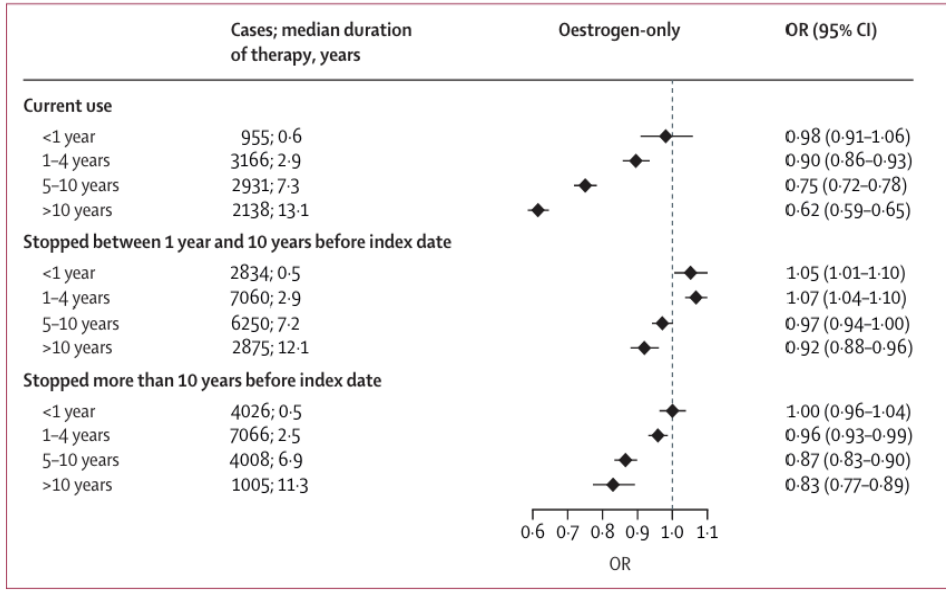


Figure 2: Overall fracture risks by recency and duration of menopausal hormone therapy use and type

Table 2 Comparative Table With Interpretation of Menopause Scales

Scale	Domains	Scoring	Clinical interpretation
MENQOL (29 items)	Vasomotor • Physical • Psychological • Sexual	Domain mean 1-8	Higher score = worse quality of life. Clinically important change ≥0.9 (overall); ≥2.0 (vasomotor) Moderate–severe symptoms: >5/item
MRS (11 items)	Somatic • Psychological • Urogenital	0-44	≥14: consider treatment 14-24 moderate >24 severe
Greene Climacteric Scale (21 items)	Anxiety • Depression • Somatic • Vasomotor • Sexual	Sum score	↑ score = worse symptoms No validated treatment threshold
EORTC QLQ-OV28 (28 items)	GI • Neuropathy • Hormonal • Body image • Sexual	0-100	↑ score = worse symptoms MCID ≈10 points
Cervantes SF-16 (16 items)	Vasomotor • Health • Psychological • Sexuality	Sum score	↑ score = poorer QoL >75 = moderate/severe impact

Abbreviations: EORTC QLQ-OV28, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire–Ovarian Cancer Module 28; GI, gastrointestinal; MCID, minimal clinically important difference; MENQOL, Menopause-Specific Quality of Life Questionnaire; MRS, Menopause Rating Scale; SF-16, Short-Form Cervantes Scale 16.

Lancet Healthy Longev 2025; 6: 100729
Human Reproduction, 2024, 39(5), 1013–1022

부인암 생존자의 폐경호르몬요법(MHT) 처방 원칙

Preferred route | 투여 경로: 경구 제제보다 **transdermal estradiol**(패치·겔) 우선 고려

Dose | 용량: 패치 **25–37.5 μg/day**로 시작; 유지 용량 **25–100 μg/day**

Uterus intact | 자궁 보존: progestogen 병용; 자궁절제 후: **estrogen-only therapy**

Duration & follow-up | 기간·추적: 조기 폐경에서는 **약 51세까지** 고려, 투약 유지 individualized decision

증상·부작용·종양학적 상태를 **최소 매년 재평가**

Isolated GSM | 국소 증상: ultra-low-dose vaginal estrogen을 고려, 암종별 금기를 확인

* **조직형, 호르몬 민감성, 환자 선호도를 반영**, 필요 시 **multidisciplinary team**과 논의

암생존자 통합지지 서비스를 이용하려면?



1577-9740으로 전화하시면
전국 어디서든, 가까운 권역센터에서
암생존자 통합지지 서비스를 자유롭게
이용하실 수 있습니다.



암 치료가 끝난
암생존자를 위한
암생존자 통합지지 서비스

보건복지부 중앙암생존자통합지지센터

Not just longer survival, but better survival

암생존자 통합지지 표준화 프로그램 종류와 내용

신체 영역

근력 강화운동	근력강화에 필요한 운동이론과 방법 (신체 활동량 및 운동 권장량 교육, 스트레칭, 전신근력운동)
바른 걷기	바른 걷기 정보, 걷기자세, 근육 사용 및 걷기 운동 방법
상지기능 개선운동	어깨 관절 등을 포함한 상지기능개선, 자세교정, 전신 근력, 섬세체력 향상을 위한 운동 방법
하복부기능 개선운동	배변, 배뇨기능을 포함한 하복부기능개선, 전신 근력, 관절가동범위 개선을 위한 운동 방법
림프부종 관리	림프부종 증상, 자가진단 방법, 예방수칙, 예방 운동방법

심리 영역

변화된 삶에 적응하기	디스트레스의 이해와 대처기법
내 안의 불안 다스리기	불안의 이해와 대처기법
새로운 여정의 시작	변화된 삶의 가치, 목표, 나의 강점 찾기
수면위생교육	수면습관 자가진단 및 올바른 수면 정보
이완훈련	복식호흡 및 점진적 근육 이완법
피로 관리	암 관련 피로에 대한 정보 및 피로 완화 방법
재발 두려움 관리	암 재발 두려움 인식 및 이해, 대처방법 등
암생존자와 가족을 위한 의사소통	암 경험으로 인해 발생하는 소통의 어려움 이해 및 효과적인 의사소통 방법

생활 영역

영양·식생활 관리	건강증진을 위한 식습관 자가진단 및 건강한 식생활 방법
영양지수(NQ)기반의 영양 식생활 관리	영양지수를 통해 식생활 상태 확인 및 개선방안을 파악하고 스스로 실천할 수 있도록 도움
암생존자 건강관리	암 치료 후 건강관리를 위해 건강 위험을 파악하고 스스로 관리하도록 도움
직업복귀 준비 Ⅰ, Ⅱ	직업복귀 준비 시 점검사항 및 신체·심리적 지지 관련 정보

Thank you.



2026년 대한부인종양학회 제31차 추계 심포지엄

2026.10. 23. (금) -24. (토)

정부세종컨벤션센터 / 세종 코트야드 바이 메리어트

대한부인종양학회
Korean Society of Gynecologic Oncology