

시애틀 위암교육 심포지엄

화학치료, 표적치료, 면역치료

의학박사 앤드류 코벨러

워싱턴대학/ 프레드 허친슨 암센터

Seattle Cancer Care Alliance

Fred Hutch · Seattle Children's · UW Medicine



공지

Consulting 컨설팅:

- 애비

연구비:

- 워싱턴대학을 통해

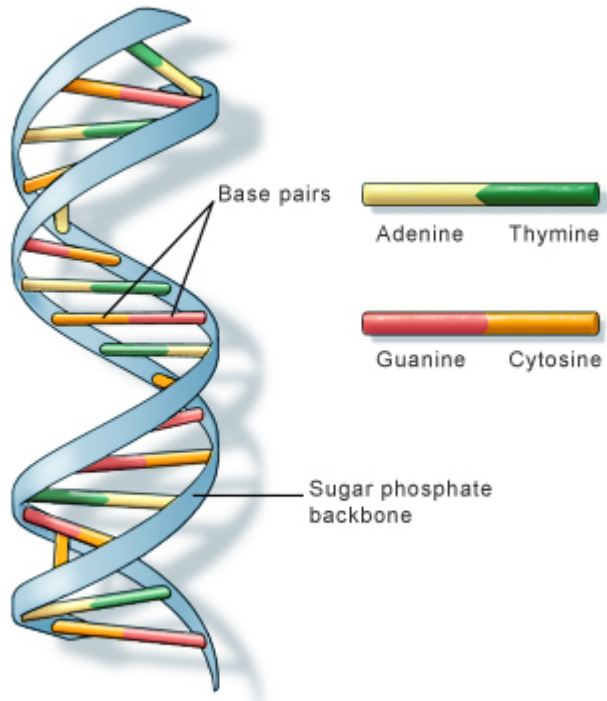
목표

비수술적 치료의 종류

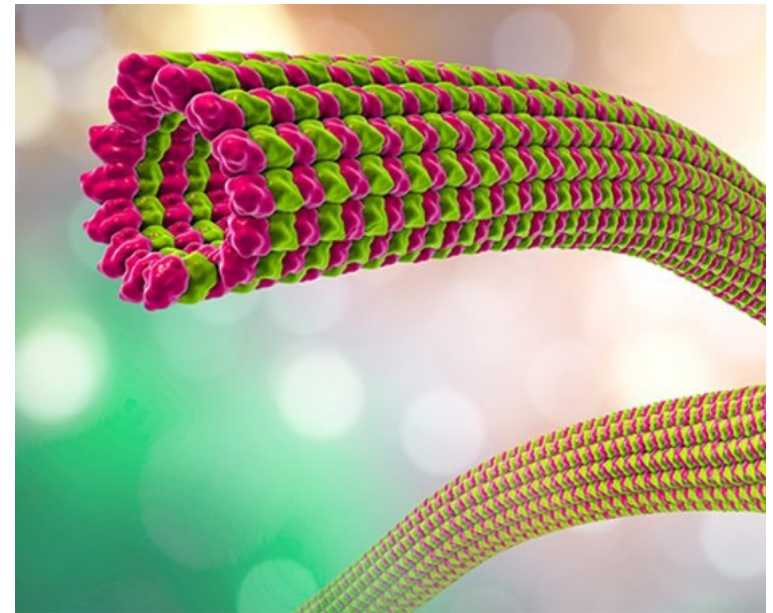
- 화학요법
- 표적치료
- 면역요법

화학요법이란

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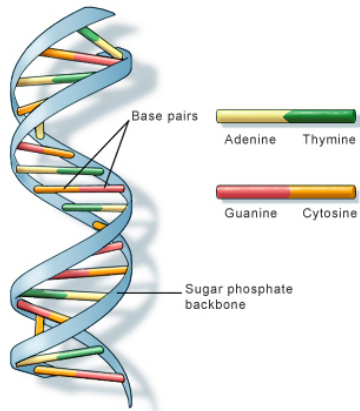


U.S. National Library of Medicine

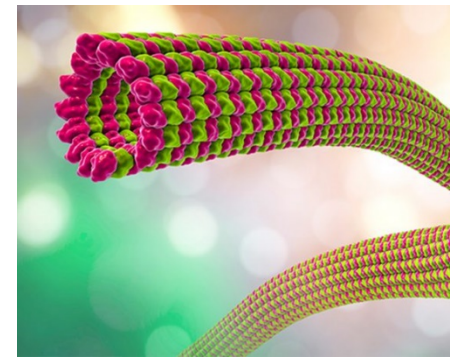
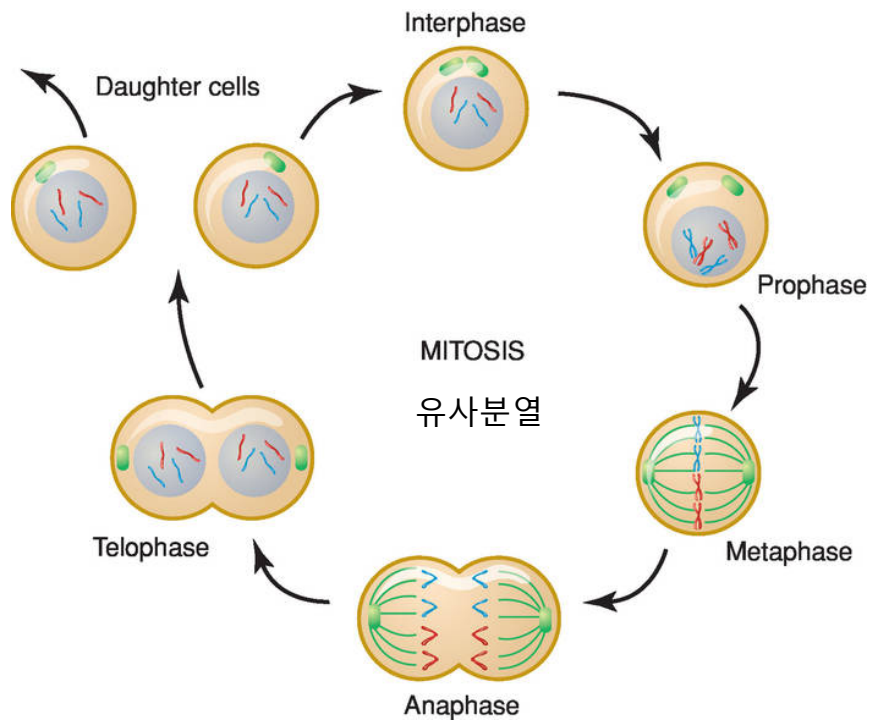


Kidsbiology.com

화학요법이란



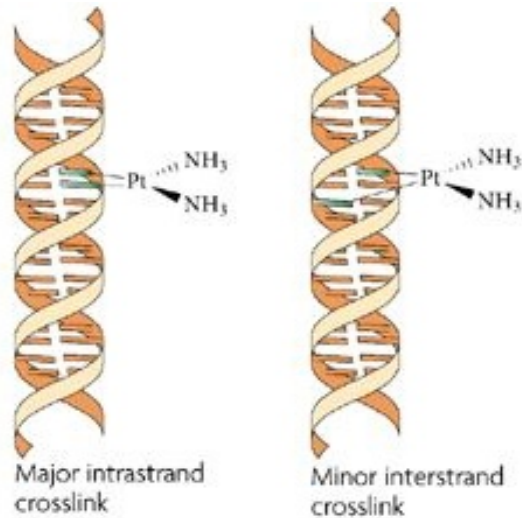
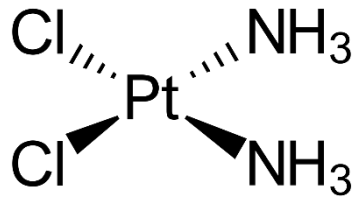
U.S. National Library of Medicine



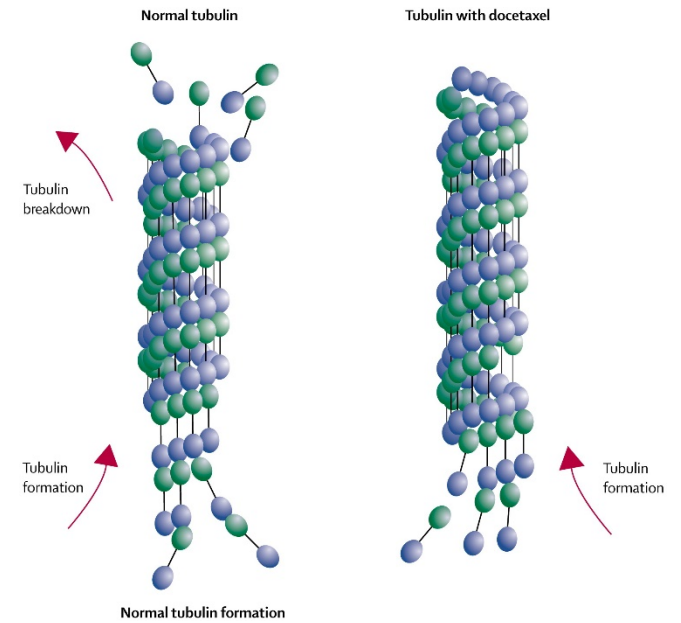
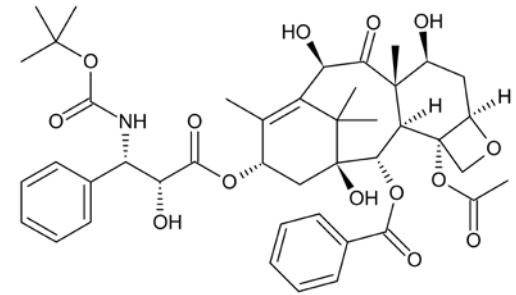
화학요법이란

Wikipedia, Nature, The Lancet Oncology

시스플라틴



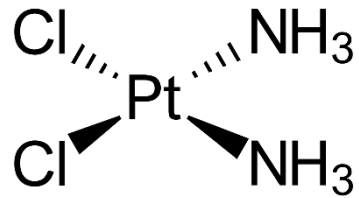
도세탁셀



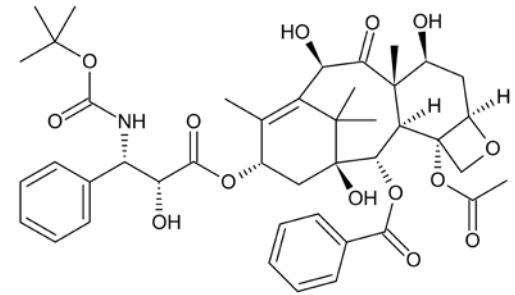
화학요법이란

Wikipedia

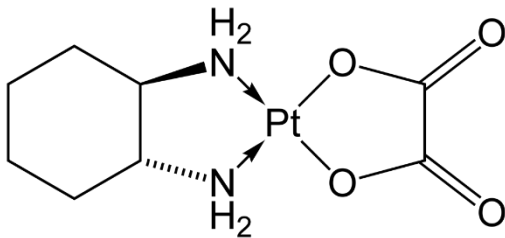
시스플라틴



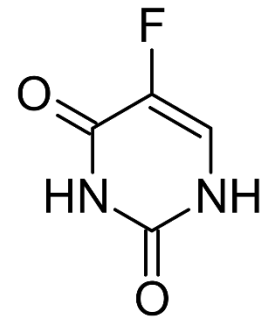
도세탁셀



옥살리플라틴



플루어러유러실 (5-FU)



화학요법이란



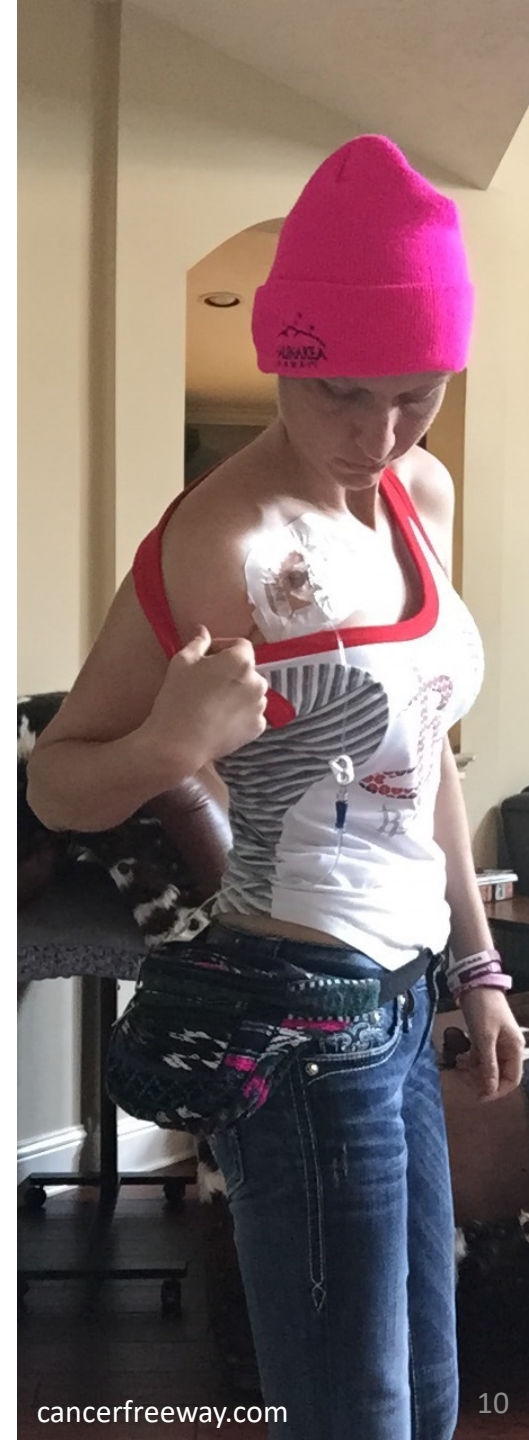
FLOT 과 FOLFOX

FLOT

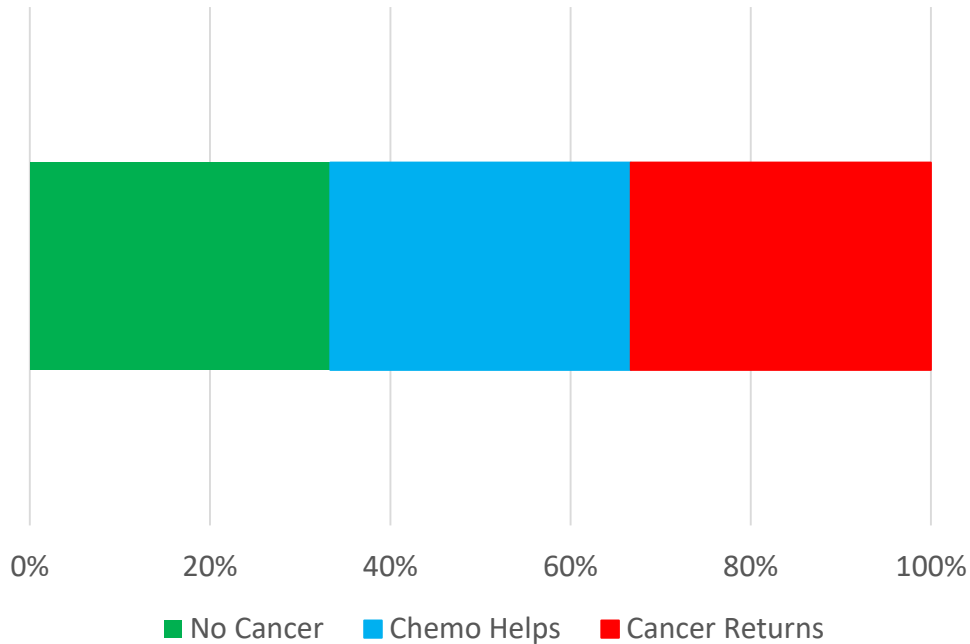
- Fluorouracil 플루어러유러실 Day 1 – 24 hours
- Leuovorin 루코보린 Day 1
- Oxaliplatin 옥살리플라틴 Day 1
- Docetaxel (Taxotere) 도세탁셀 Day 1

FOLFOX

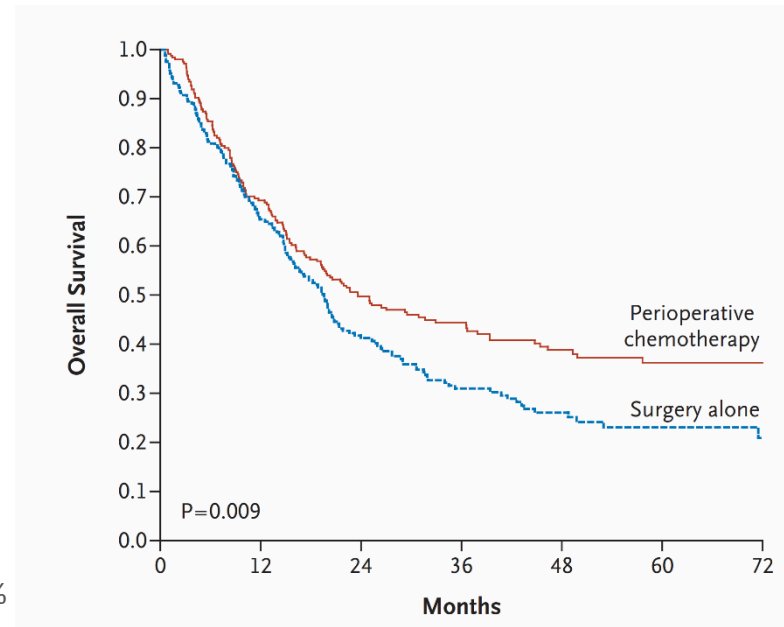
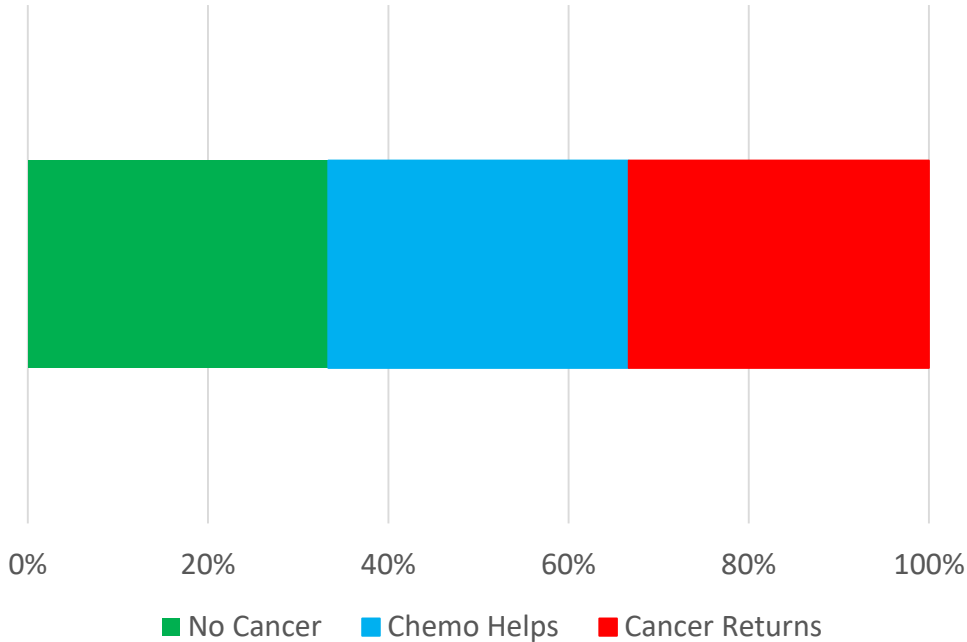
- Folinic Acid 폴리닉산 Day 1
- Fluorouracil 플루어러유러실 Day 1 + 48 hours
- Oxaliplatin 옥살리플라틴 Day 1



왜 보조항암화학요법을 하나



왜 보조항암화학요법을 하나



화학요법의 시기와 약물

수술전후

- FLOT or FOLFOX (and not so much ECF/ECX)

수술전/신보조 화학방사선

Carboplatin + Paclitaxel or FOLFOX

수술후 화학방사선

- Fluorouracil or Capecitabine
before and after Radiation with Fluorouracil

수술후 (보조요법으로)

- Capecitabine + Oxaliplatin



전이된 4기 암에 대한 투약

1단계

- Fluorouracil / Capecitabine + Cisplatin / Oxaliplatin
- First Line - Other
- ECF, EOF, EOX, ECX, mDCF, Irinotecan + F,

2단계

- Ramucirumab + Paclitaxel
- Pembrolizumab (MSI-High)

3단계

- Pembrolizumab (PD-L1+)
- Trifluridine/Tipiracil (Lonsurf)

화학요법의 부작용

저혈량

- 호중성백혈구감소증
- 빈혈
- 혈소판감소증

소화기독성

- 메스꺼움
- 구토(흔치 않음)
- 설사
- 변비
- 구강점막질환

신경계손상

- 청각상실(시스플라틴)
- 마비/저림현상(옥살리플라틴)
- 마비(도세탁셀)

기타

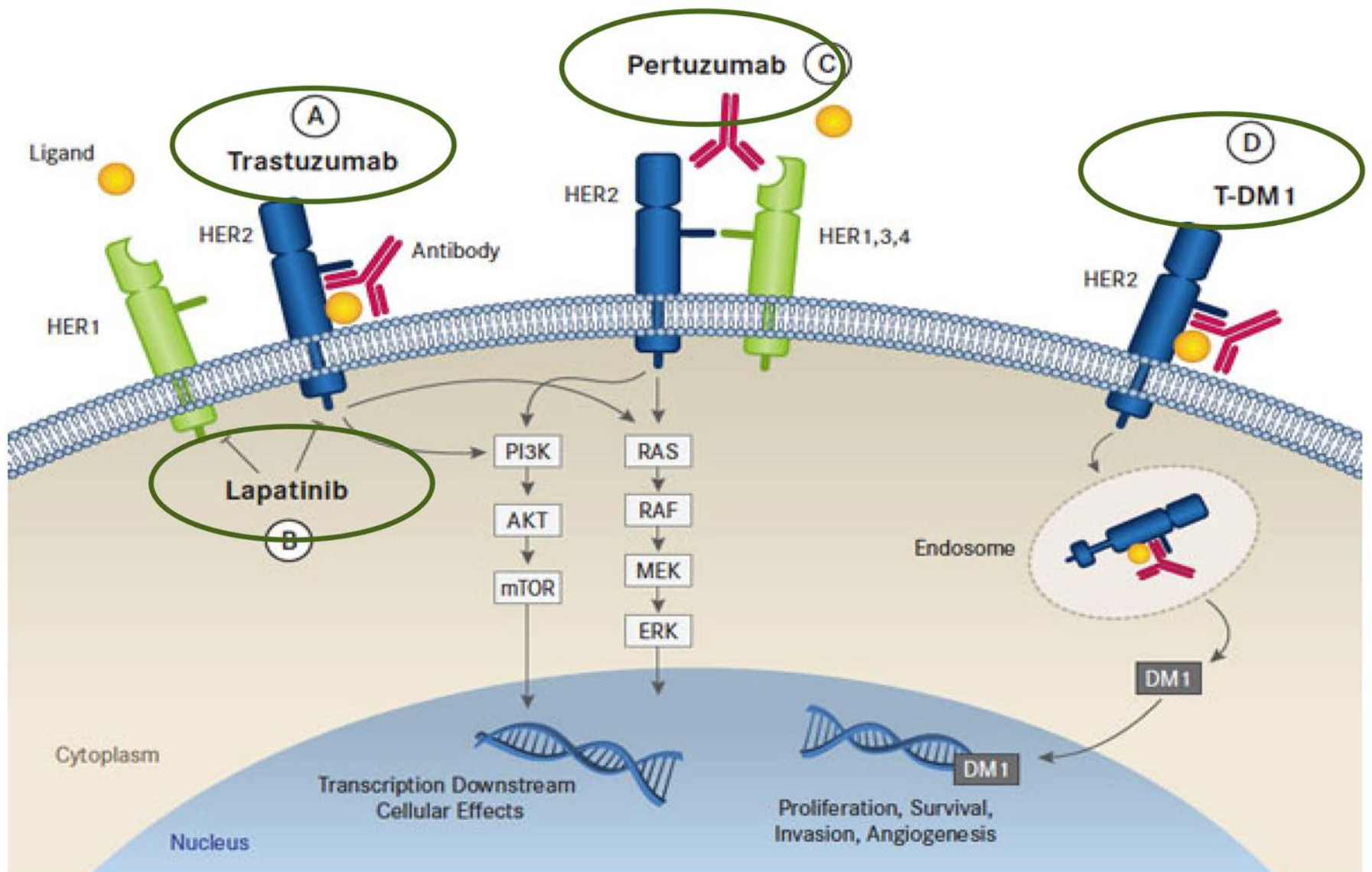
- 탈모(도세탁셀)
- 심장문제

목표

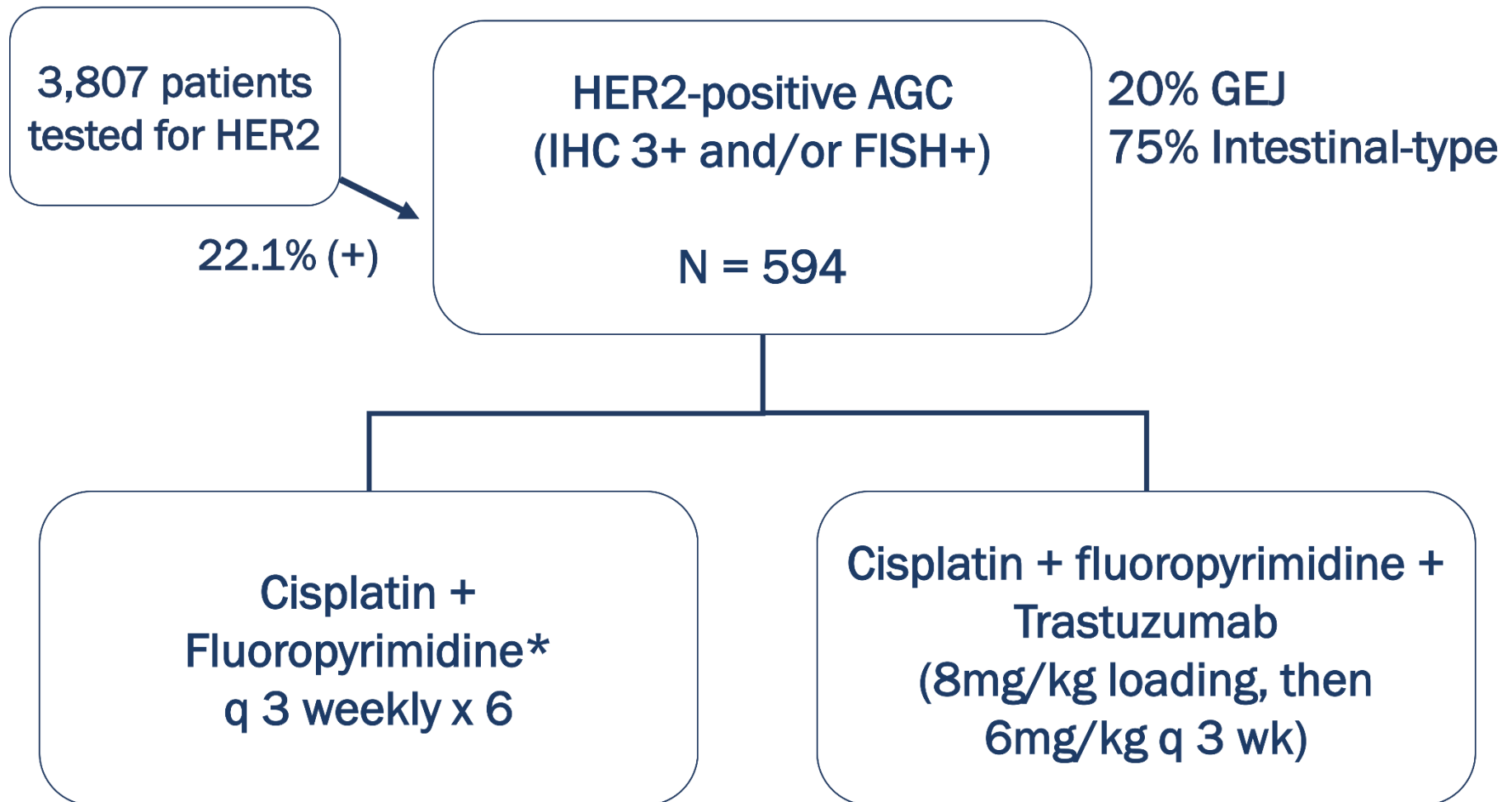
비수술적 치료방법

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표적치료에 대한 이해



표적치료: HER2 (ToGA)



표적치료: HER2

ORR:

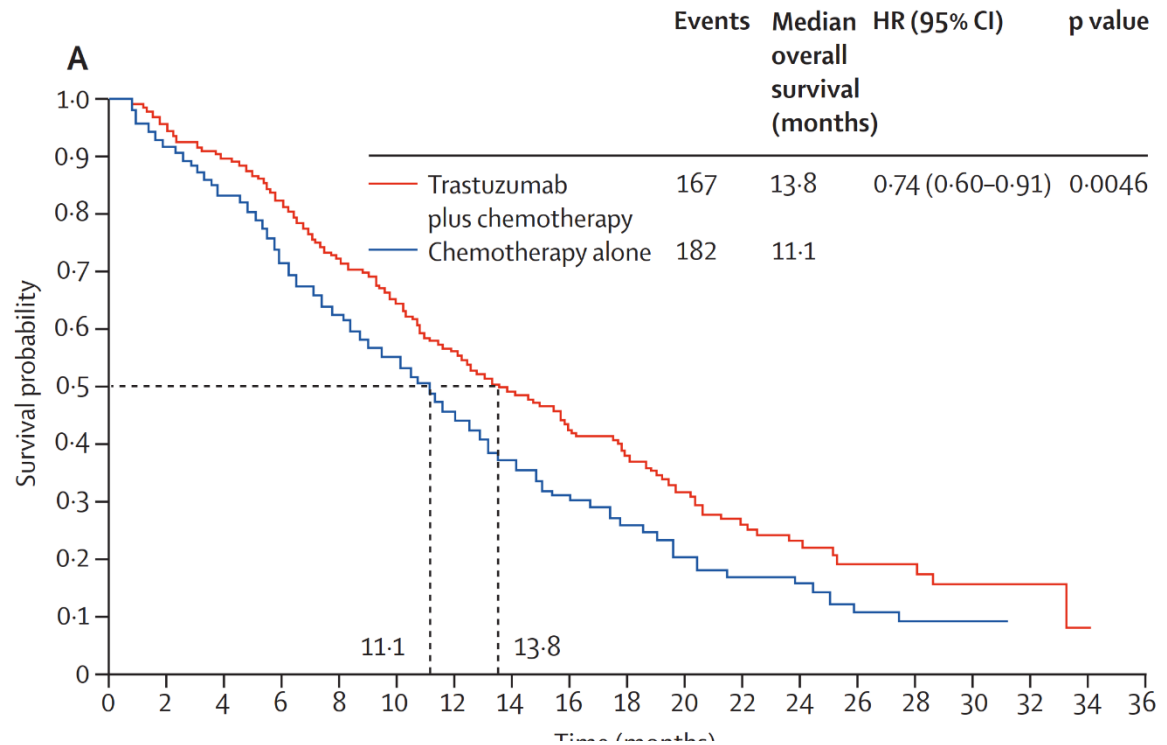
50% vs 35%

mPFS

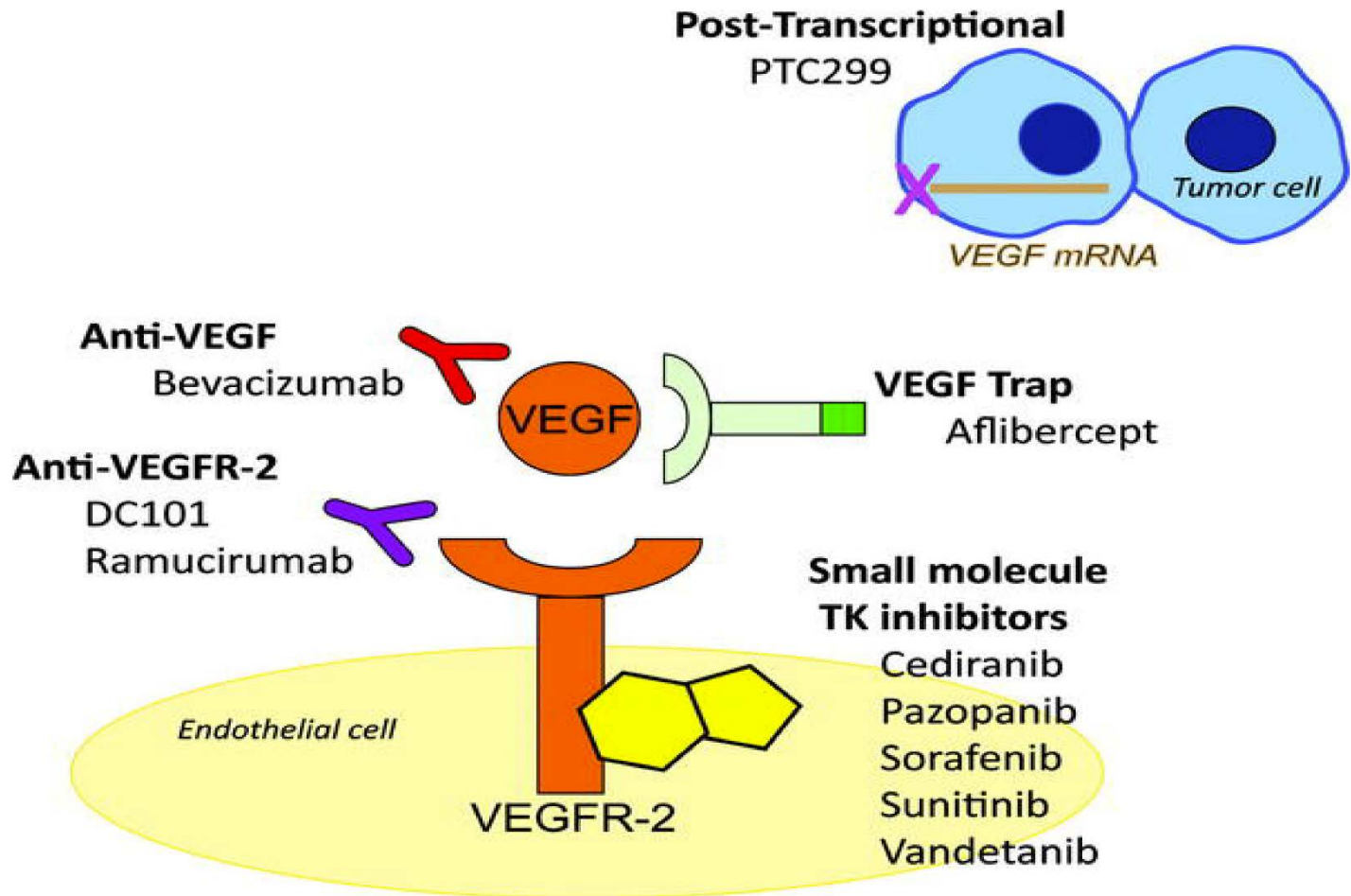
6.7 vs 5.5m

mOS

14 vs 11m



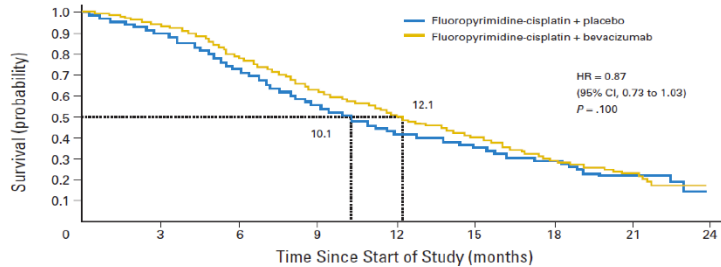
표적치료: VEGF



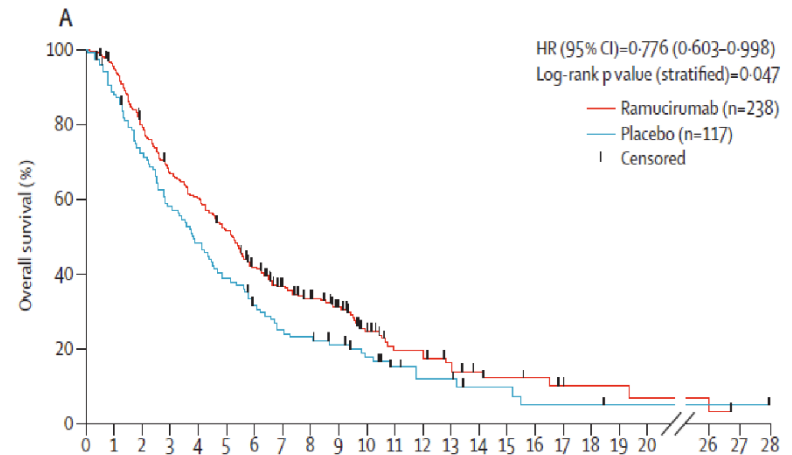
임상시험 두가지

Negative Study

Endpoint	Bevacizumab (n=387)	Placebo (n=387)	p value
RR	46%	37.4%	0.0315
Median PFS	6.7 months	5.3 months	0.0037
Median OS	12.1 months	10.1 months	0.1002



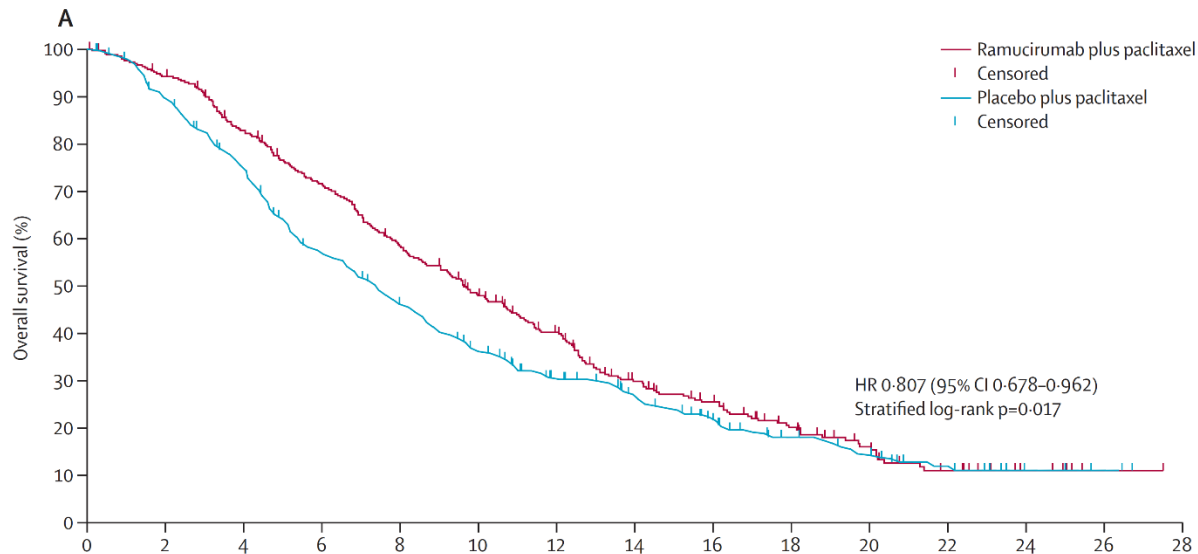
Positive Study



	Ram	Placebo	P
PFS	2.1 mo	1.3 mo	<0.001
OS	5.2 mo	3.8 mo	0.047

라무시루맵 (팍리탁셀과 병용)

반응율: 30% vs 15%
질병통제율: 80% vs 60%
진행없음: 4.5 vs 3 months
생존율: 9.5 vs 7.0



표적치료의 부작용

트라추주맙 (허셉틴)

- 심장펌핑감소
- 주입반발
- 콧물

라무시루맙

- 피로
- 혈전
- 복통
- 혈액악화

목표

비수술적 치료방법

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- 표적치료
- 면역요법

면역체계

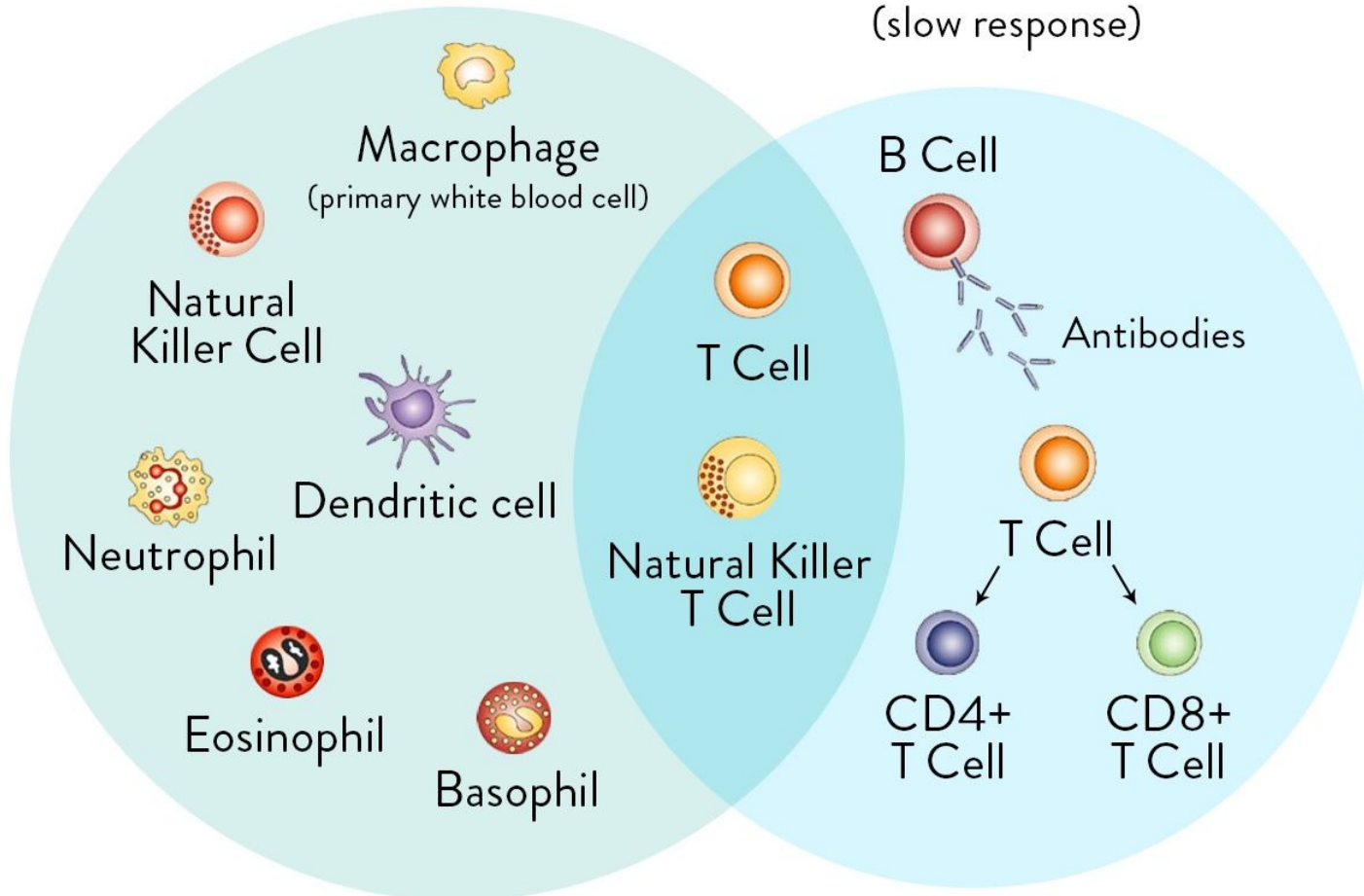
Pinterest

선천적 면역(빠른 반응)

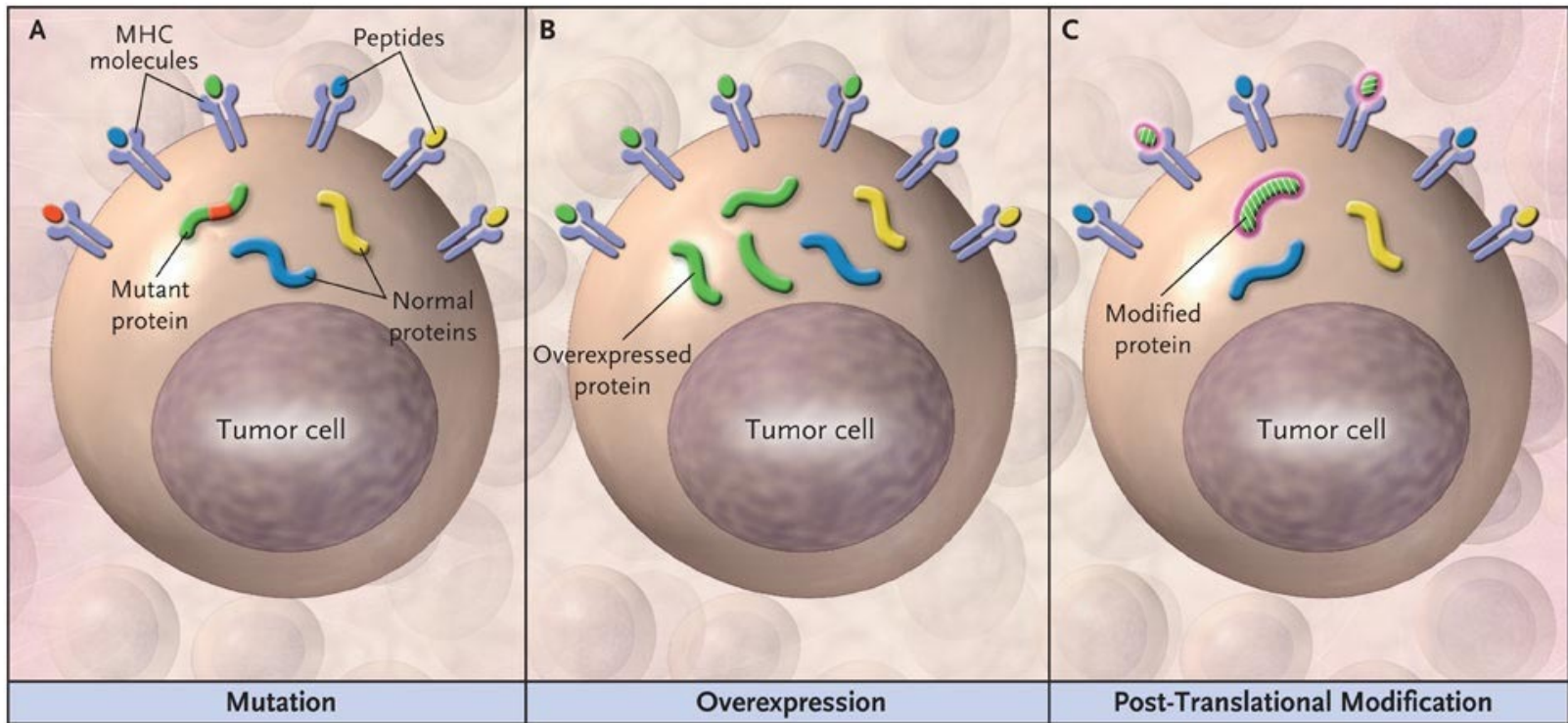
INNATE IMMUNITY
(rapid response)

후천적 면역(느린 반응)

ADAPTIVE IMMUNITY
(slow response)



암세포의 돌연변이 단백질

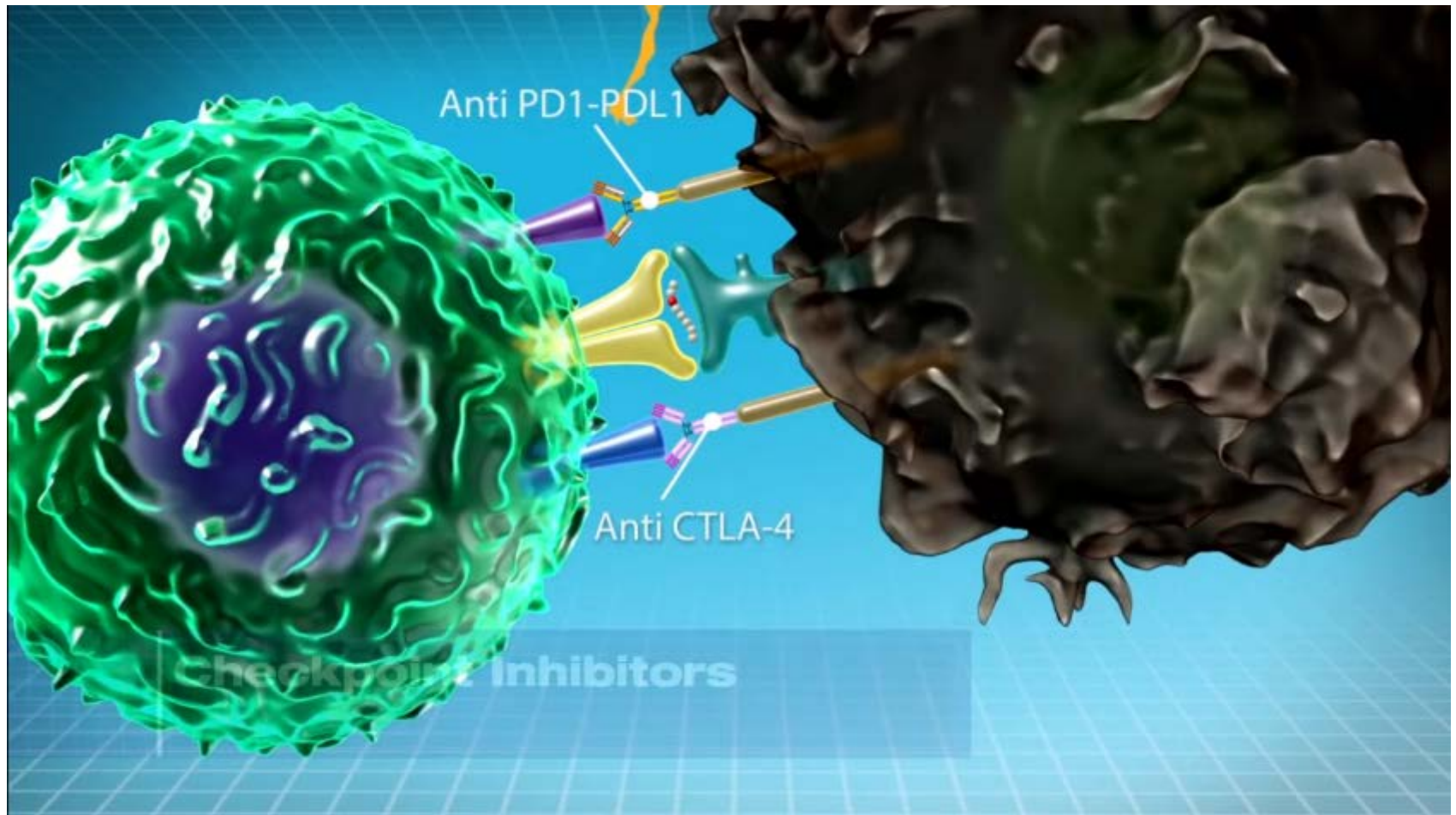


돌연변이

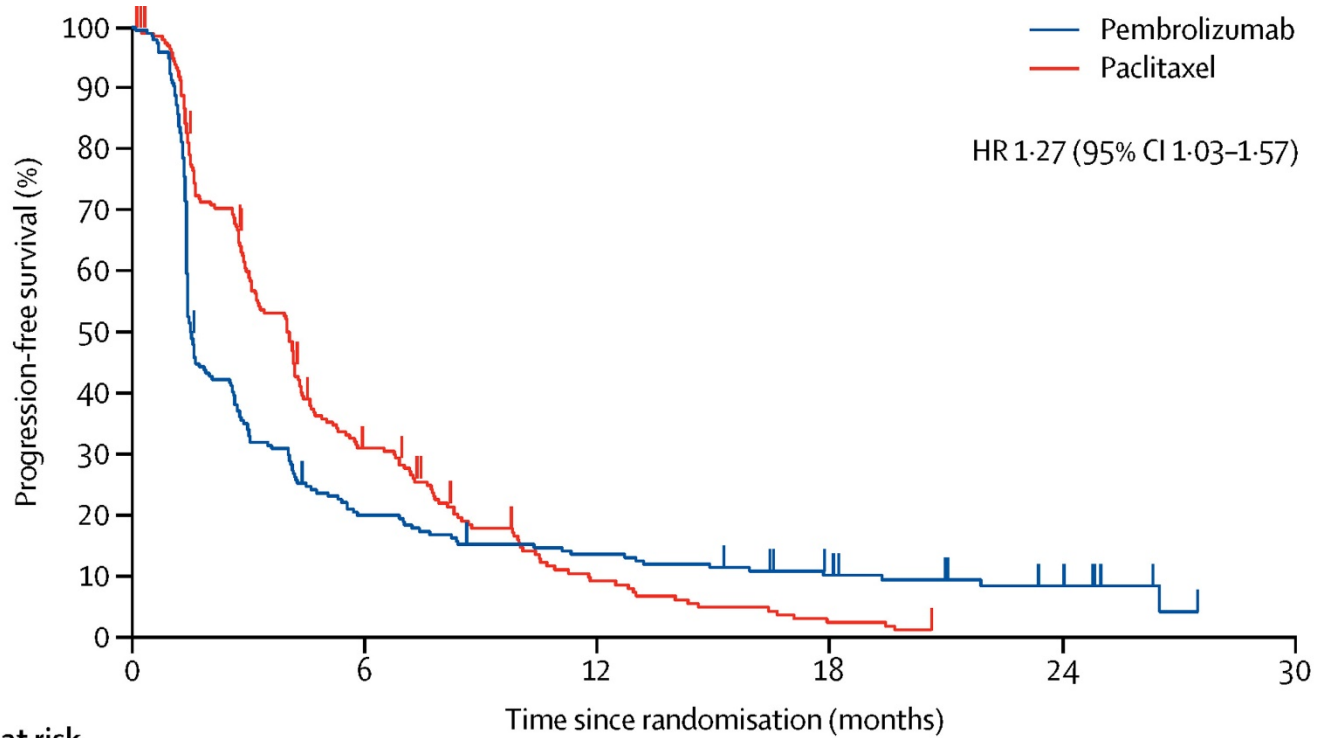
과발현

전사 후 변형

면역요법: 어떻게 작동하는가



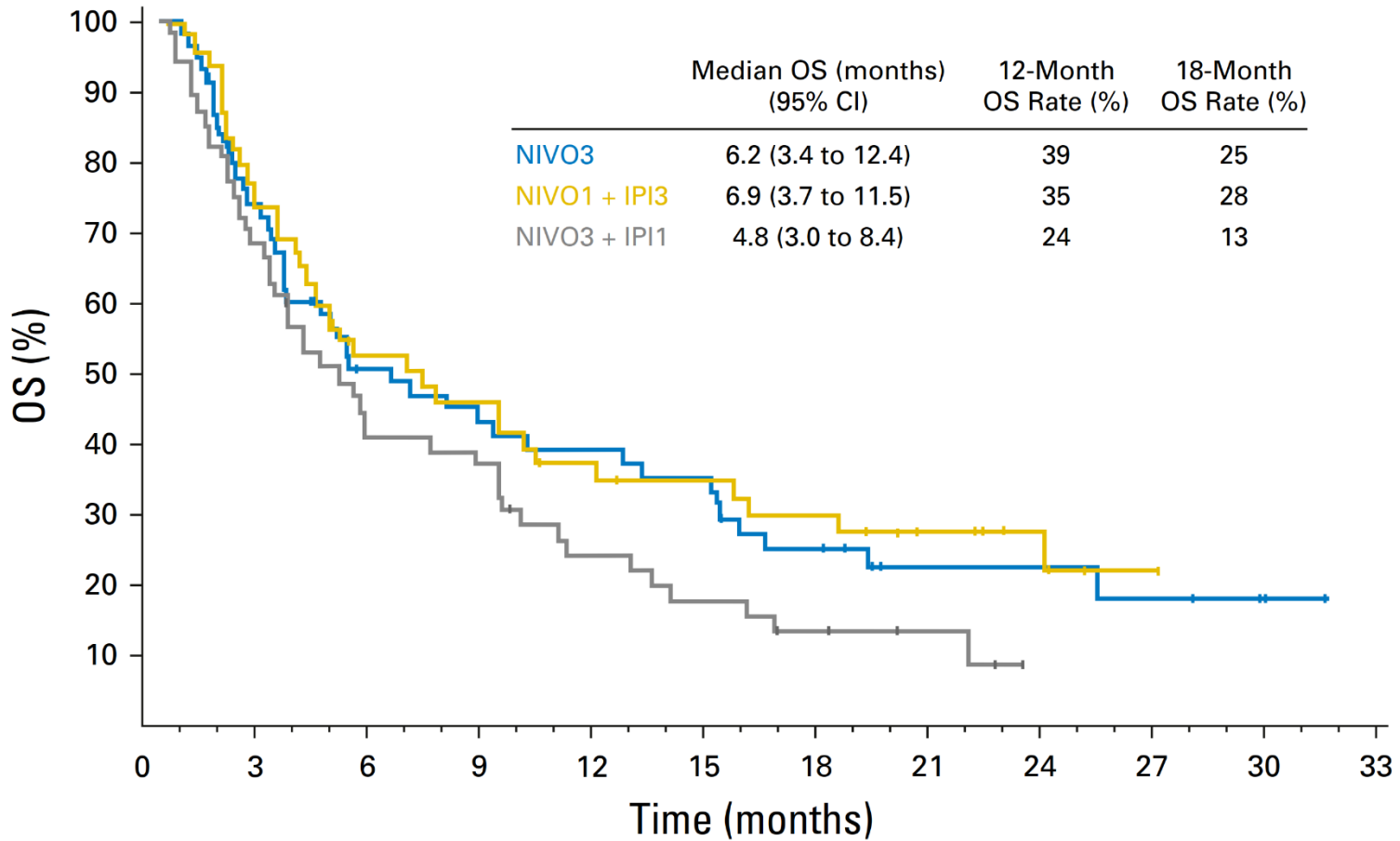
면역치료: 결과



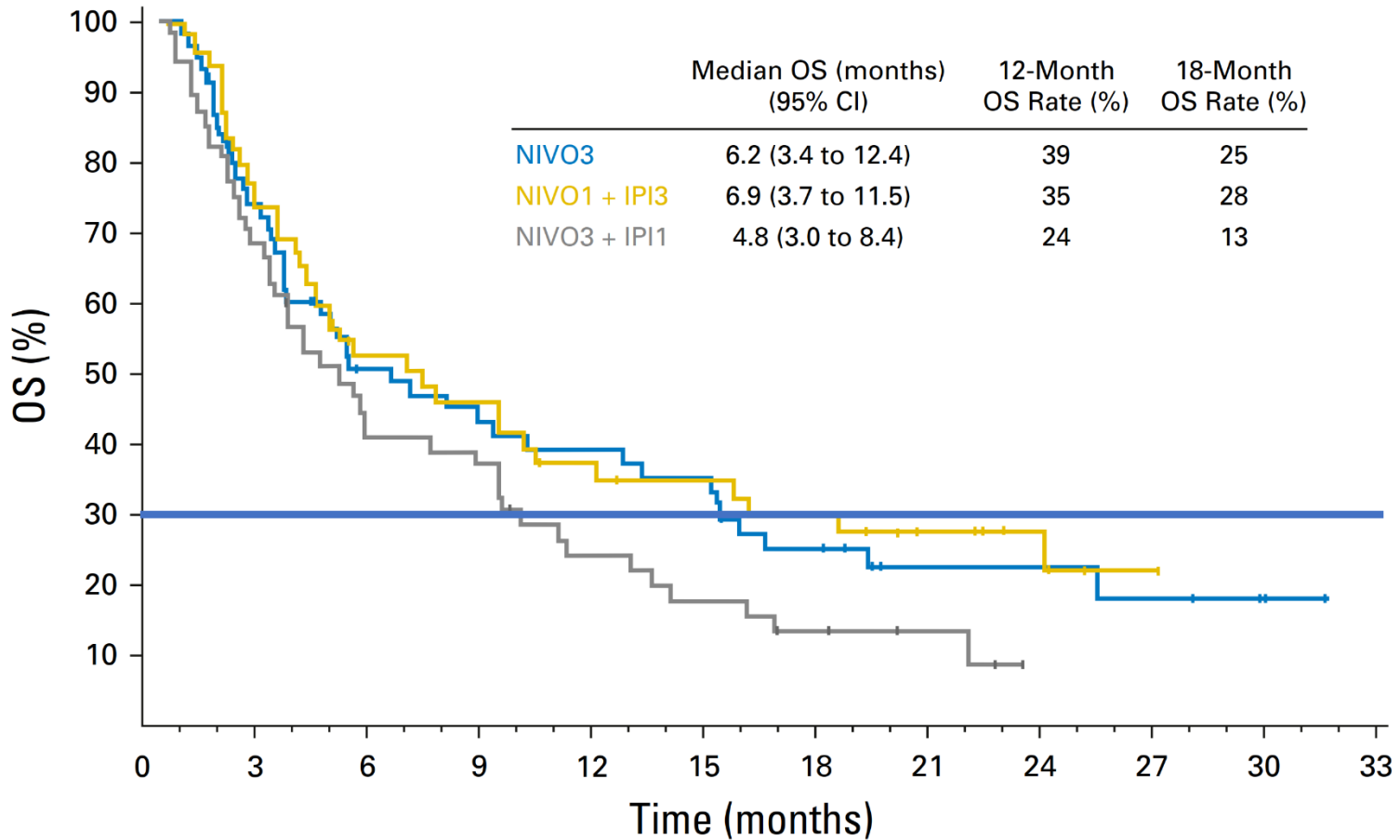
**Number at risk
(censored)**

	0	6	12	18	24	30
Pembrolizumab	196 (0)	38 (2)	25 (3)	15 (7)	7 (12)	0 (19)
Paclitaxel	199 (0)	57 (9)	15 (14)	4 (14)	0 (15)	0 (15)

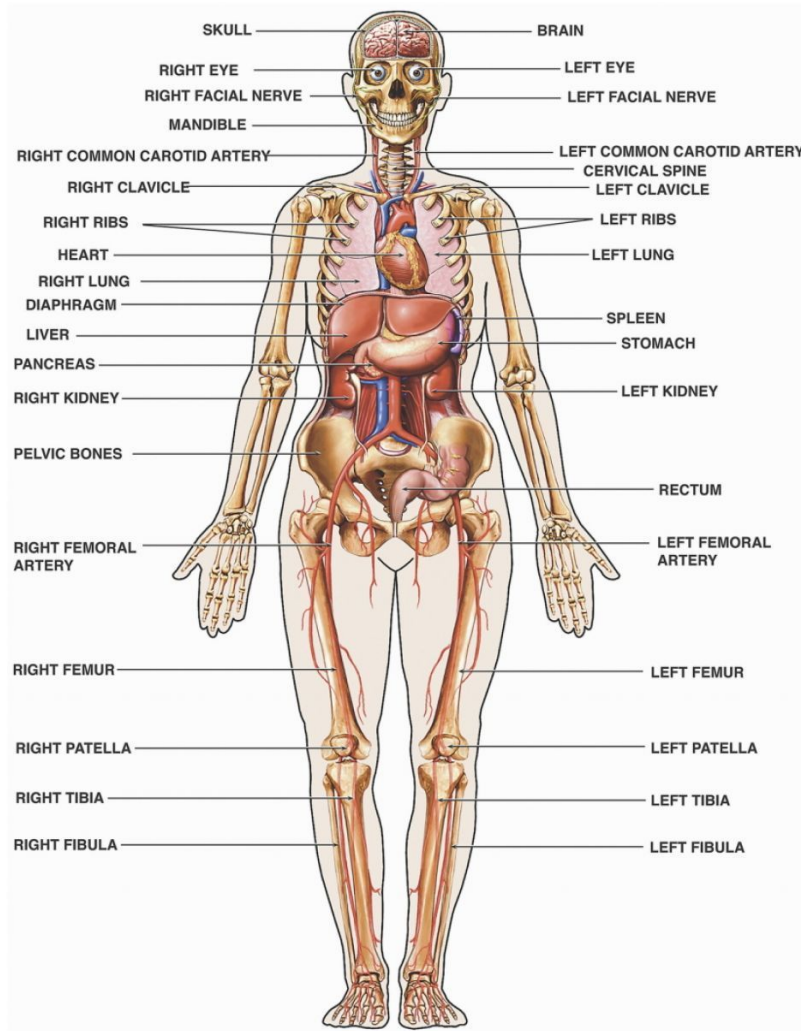
면역치료: 결과



면역치료: 결과



면역치료의 부작용



요약정리

화학치료는 생존율을 높이기 위해 수술전이나 수술전/후 방사선치료와 병행 또는 단독으로 시행한다.

표적치료는 화학치료의 결과를 향상시킨다.
새로운 약품이 개발되고 있다.

면역치료는 위암에 쓰이고 있으나 더 많은 발전이 요구된다.