



Shifting Paradigms: Perioperative Outcomes of Neoadjuvant Chemoradiotherapy Versus Chemoimmunotherapy for Resectable NSCLC

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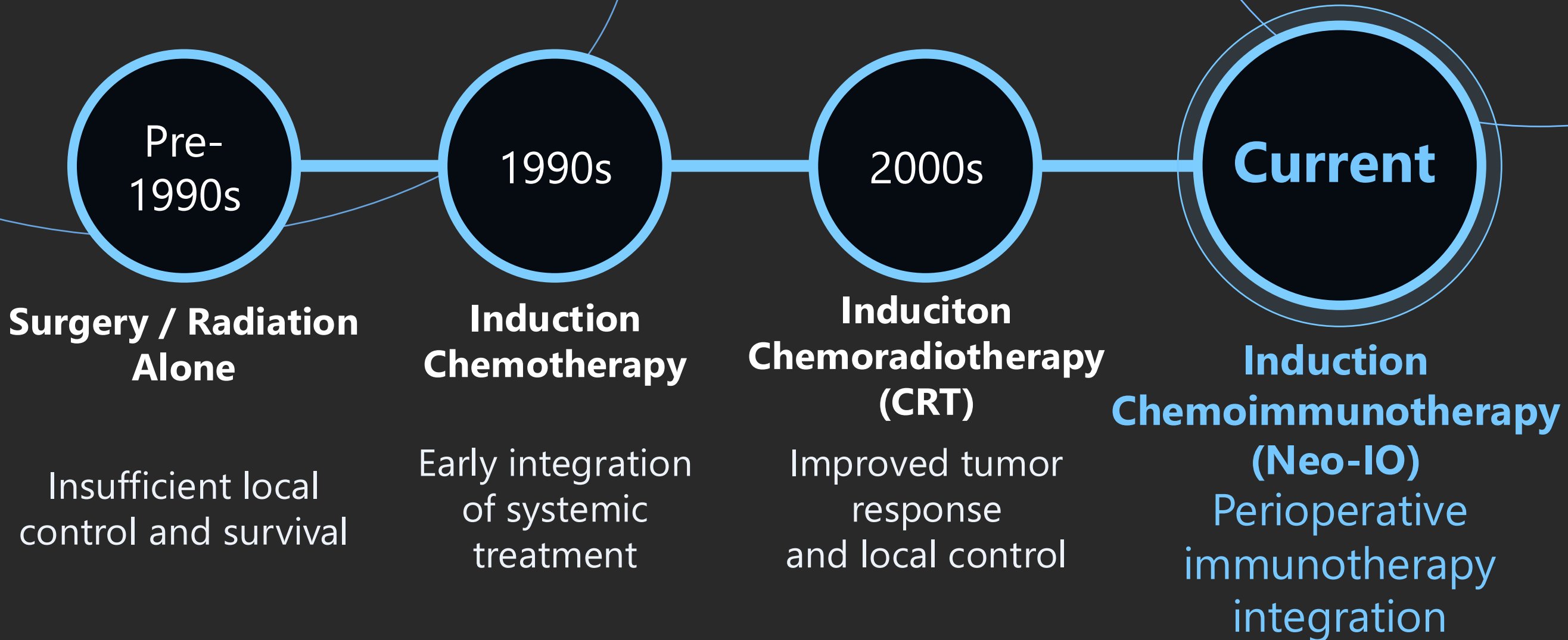
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**The author has no conflict of
interest to disclose with respect
to this presentation.**

Historical Transition in Induction Therapy for Locally Advanced NSCLC



CRT vs Neo-IO: Locally Advanced NSCLC

How Have Perioperative Outcomes Changed?

Radiation Damage

- Neo-IO may facilitate surgery by avoiding radiation-induced tissue damage.

Immune-Related Adverse Events

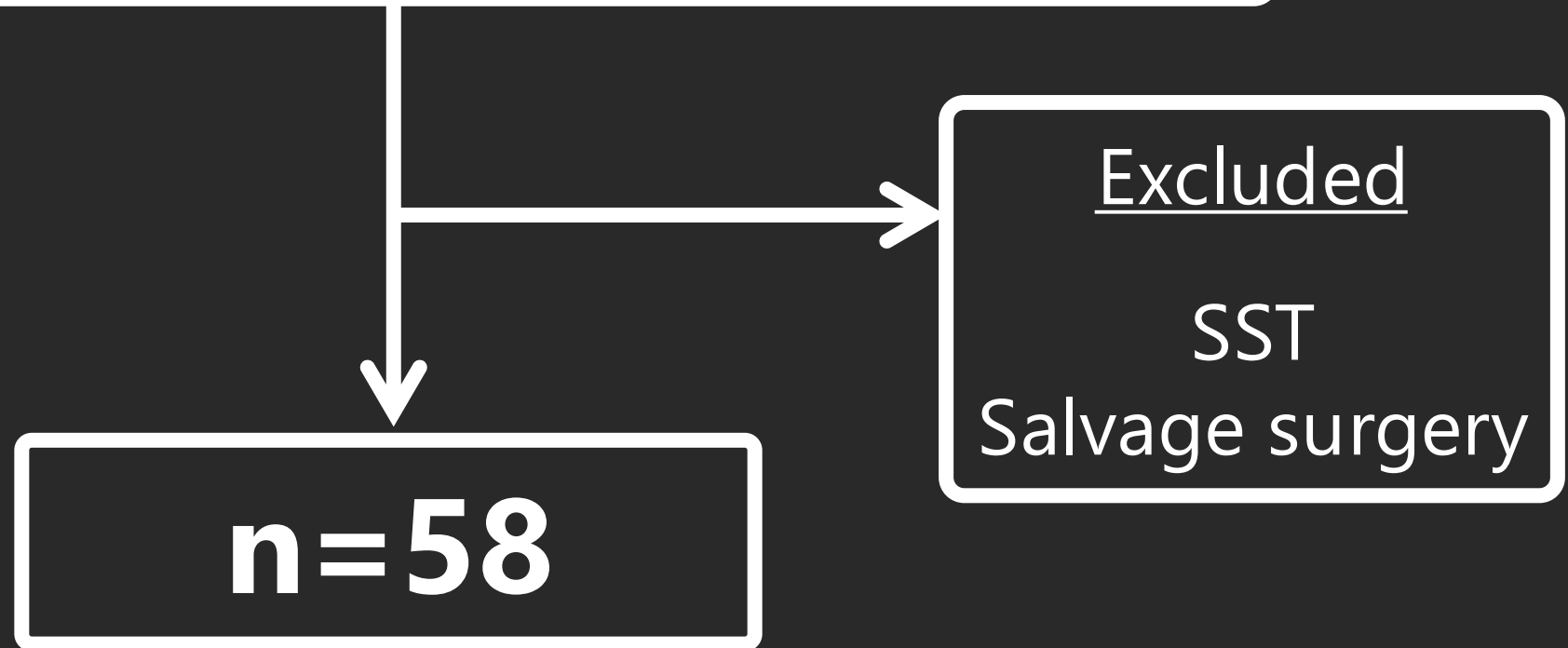
- However, irAEs may complicate perioperative management.

THE UNRESOLVED ISSUE & STUDY AIM

Comparing perioperative outcomes and safety between CRT and neo-IO is clinically important.

Subject

- Retrospective single-center study
- 01/2014-03/2026
- NSCLC Planned Induction Therapy



Method

Induction **CRT**
Group: n = 29

Induction **neo-10**
Group: n = 29

Evaluated Outcome

- Clinical Response
- Surgical transition rate
- Perioperative outcomes

(Operative time, Blood loss, Approach / Conversion, Complications)

- Pathological Response



Results			
Patients' characteristics	Induction	Induction	p value
	CRT n = 29 (%)	neo-IO n = 29 (%)	
Sex: Male / Female	21 (72.4) / 8 (27.6)	22 (75.9) / 7 (24.1)	0.764
Age: Median (Range)	67 (40-80)	72 (37-82)	0.353
Smoking index: 600 > / 600 ≤	10 (34.5) / 19 (65.5)	13 (44.8) / 16 (55.2)	0.421
c-stage (9th): IIA / IIB / IIIA / IIIB	0 / 2 / 21 / 6	2 / 5 / 15 / 7	0.225
N status: N0 / N1 / N2a / N2b	0 / 3 / 18 / 8	2 / 8 / 16 / 3	0.083
Pathology: Ad. / Sq. / Other	14 / 10 / 5	16 / 7 / 6	0.686



Results

Treatment	Induction CRT n = 29	Induction neo-IO n = 29	p value
Regimens			
Median radiation dose	50Gy (45-66)		
CDDP+VNR+RT	26		
CDDP+PEM+RT	1		
CDDP+S-1+RT	1		
CDDP+PTX+RT	1		
CBDCA+PTX+Nivo		15	
CDDP+PEM+Nivo		2	
CDDP+GEM+Pembro		1	
CDDP+PEM+Pembro		5	
Other		6	

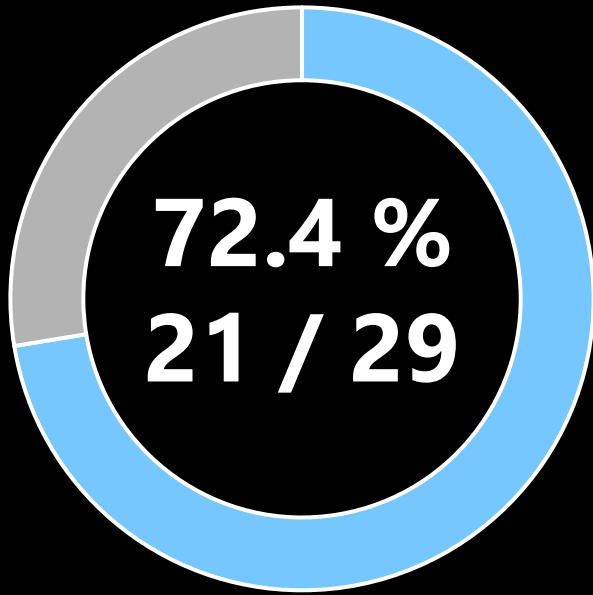
Results



Treatment	Induction CRT n = 29	Induction neo-IO n = 29	p value
Chemo cycles: Median	2 (2-4)	3 (1-4)	
Response: PD / SD / PR / CR	2 / 11 / 16 / 0	2 / 6 / 20 / 1	0.199
Overall Response Rate	55.2 %	72.4 %	
Disease Control Rate	93.1 %	93.1 %	
Down stage	12 (41.4 %)	18 (62.1 %)	0.115

Surgical Transition Rate

Induction **CRT** Group

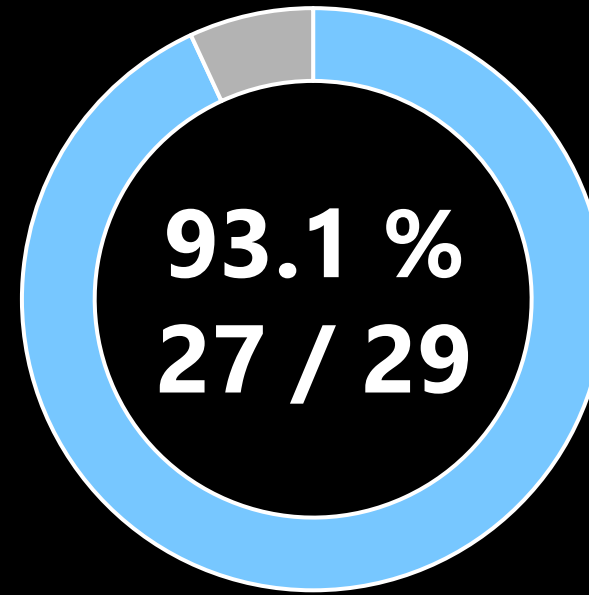


Considered as
unresectable
(n=6)

PD (n=2)

All patients completed chemotherapy,
although dose reduction was
required in some cases.

Induction **neo-IO** Group



Declined surgery
(n=1)

PD (n=1)

irAEs ($\geq$ G3) (n=5)

- **Hepatitis**
- **Myositis**
- **Skin rash**
- **Enteritis**

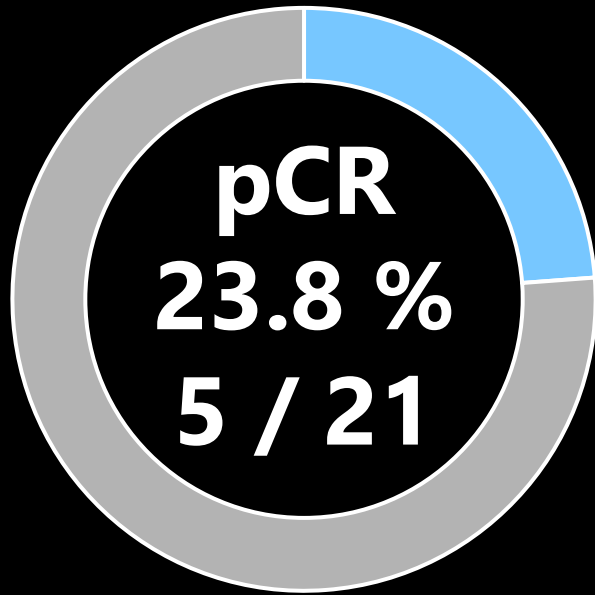


Perioperative Outcomes

Patients' characteristics		Induction CRT n = 21	Induction neo-IO n= 27	p value
Operation time (min): Median		248 (111-567)	281 (124-547)	0.930
Blood loss (ml)		55 (0-4859)	102 (7-1671)	0.707
VATS or RATS		10 (47.6 %)	21 (81.8 %)	0.030
Conversion to Thoracotomy		2 (9.5 %)	1 (3.7 %)	0.409
Complication	AE≥G3	4 (19.0 %)	8 (29.6 %) (irAE 2 (7.4 %))	0.401

Pathological Response

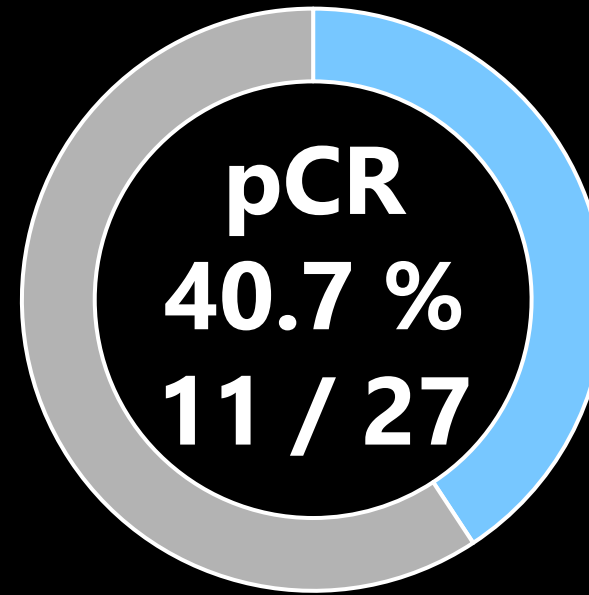
Induction **CRT** Group



All pCR cases were treated with CDDP + VNR + RT(50Gy).

All patients completed CRT, although dose reduction was required in some cases.

Induction **neo-IO** Group



pCR despite discontinuation of neo-IO due to irAEs (n=2)

pCR despite early discontinuation
Rash: After 2 cycles
Hepatitis: After 1 cycle

Discussion

- ✓ **Operative time, blood loss, conversion rate, and complication rate were comparable between the two groups, suggesting that induction neo-IO had perioperative safety and feasibility comparable to induction CRT.**

Discussion

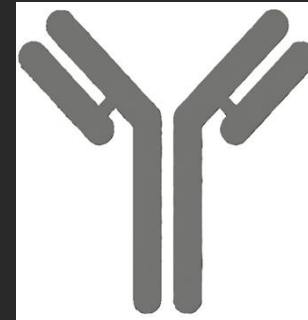
- ✓ **Radiologic response** appeared comparable between induction CRT and neo-IO.



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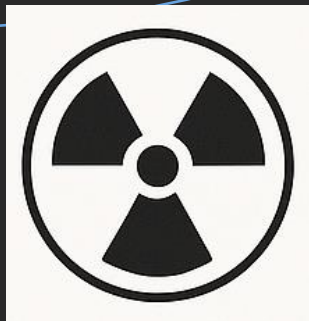


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Discussion

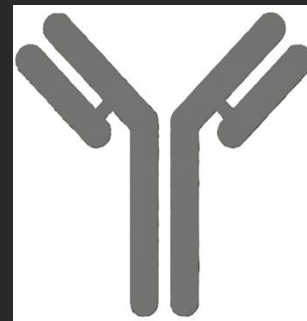
- ✓ **Pathological response**, including pCR, tended to be better in the neo-IO group than in the CRT group.



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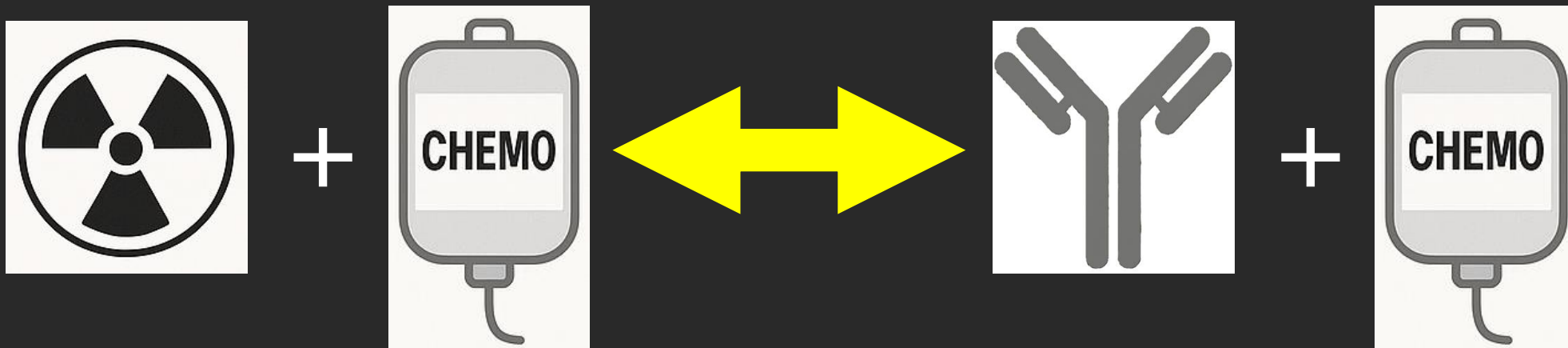


Discussion

- ✓ Differences in radiation field may have contributed to intergroup differences in baseline tumor volume, making direct comparison of treatment response difficult.
- ✓ Greater chemotherapy exposure in the neo-IO group may have contributed to the higher efficacy.

Discussion

- ✓ pCR was achieved even in two patients who discontinued treatment early because of irAEs, suggesting that treatment duration alone does not fully explain the response.



Discussion

- ✓ Although preoperative irAEs occurred, no patients were unable to proceed to surgery because of irAEs.

In the presence of irAEs or other treatment-related events, preserving the opportunity for curative resection and avoiding delay in surgery may be more important than completing the planned course of induction therapy.

Discussion

- ✓ Postoperative complications suspected to be related to irAEs were observed.
- **Interstitial lung disease (n=1) POD 84**
- **Guillain-Barré syndrome (n=1) POD 15**

Given the potential for postoperative irAEs, careful postoperative monitoring, including symptom evaluation and laboratory assessment, is warranted.

Time of Surgery after ICI



- 1. Surgical scheduling should be guided by clinical recovery rather than fixed protocol timelines.**
- 2. In cases of immune-related adverse events (irAEs), early discontinuation of neo-IO followed by surgery may represent an appropriate management strategy.**

Time of Surgery after ICI



3. **Flexibility in surgical timing is warranted, especially for patients requiring corticosteroid treatment or prolonged tapering after induction therapy.**

Conclusion

Induction neo-IO showed perioperative safety and feasibility comparable to CRT, although careful irAE management remains essential.