

Meet AZN management: ASCO 2019

Breakout 4: trastuzumab deruxtecan

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3 June 2019



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Trastuzumab deruxtecan

A state-of-the-art HER2¹-targeted, second-generation ADC²

Differentiated ADC

The diagram illustrates the conjugation chemistry of Trastuzumab deruxtecan. On the left, a Y-shaped antibody is shown with red and blue arms. Green squares represent cysteine residues, and orange circles represent drug-linkers. A blue circle highlights a cysteine residue being targeted for conjugation. A blue arrow points to a yellow box labeled 'Proprietary Drug-Linker', which contains a complex chemical structure of a protease-cleavable linker. Below this, a blue box labeled 'Proprietary Payload (DXd)' shows the chemical structure of a DX-8951 derivative. A legend indicates that green squares are 'Cysteine residue' and orange circles are 'Drug-Linker'. The text 'Conjugation chemistry' is followed by 'The linker is connected to cysteine residue of the antibody'. At the bottom, a grey box contains the text 'Potential best-in-class ADC for HER2-positive breast cancer'.

Proprietary Drug-Linker

Proprietary Payload (DXd)
DX-8951 derivative

Conjugation chemistry
The linker is connected to cysteine residue of the antibody

Legend:
■ Cysteine residue
● Drug-Linker

Potential best-in-class ADC for HER2-positive breast cancer

- Higher-intensity chemotherapy (more payload on each antibody)
- Membrane permeability (potential HER2-low applicability)
- Selective protease-cleavable linker
- Short half-life of free payload reduces systemic toxicities

Potential first-in-class ADC for HER2-low cancers

1. Human epidermal growth factor receptor 2.

2. Antibody drug conjugate.

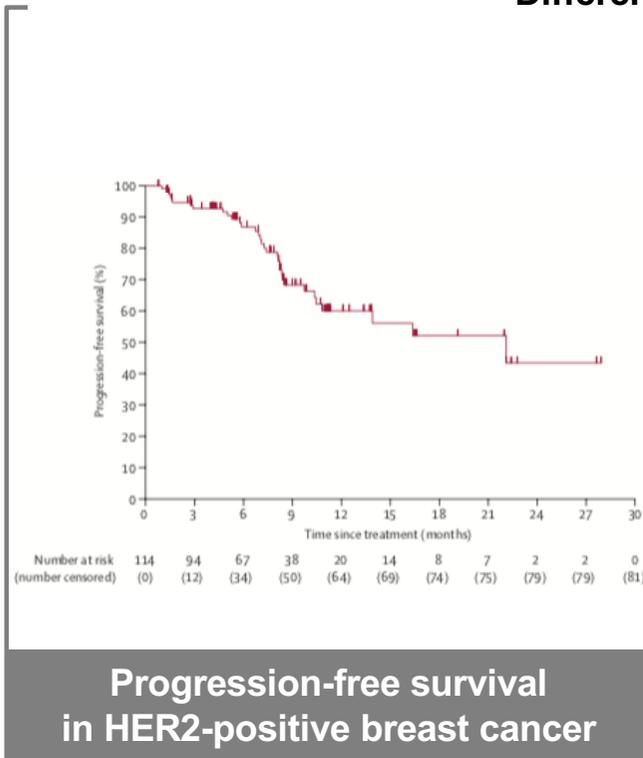
Sources: Daiichi Sankyo R&D event, December 2018, US label for trastuzumab emtansine and Ogitani et al, 2016.



Trastuzumab deruxtecan

Unprecedented Phase I/II data

Differentiated ADC



59.5%
confirmed objective response rate

93.7%
confirmed disease control rate¹

20.7 months
median duration of response²

Unprecedented data in advanced HER2-positive breast cancer

Phase II primary endpoint met

News Release
Regulatory News Service



8 May 2019 07:00 BST

Trastuzumab deruxtecan demonstrated clinically-meaningful response in patients with refractory HER2-positive metastatic breast cancer, a population with high unmet need

Pivotal Phase II DESTINY-Breast01 trial met primary endpoint, supporting global regulatory submission plan to start in H2 2019

AstraZeneca and Daiichi Sankyo Company, Limited (Daiichi Sankyo) today announced positive top-line results for the pivotal Phase II DESTINY-Breast01 trial of trastuzumab deruxtecan (DS-8201). The HER2-targeting antibody drug conjugate (ADC) and potential new medicine was evaluated in patients with HER2-positive, unresectable and/or metastatic breast cancer previously treated with trastuzumab emtansine.

The response rate in DESTINY-Breast01, as assessed by an independent review committee, confirms in a heavily-pretreated, global patient population the unprecedented clinical activity in the [recently-published](#) Phase I trial. The safety and tolerability profile of trastuzumab deruxtecan was also consistent with previous experience. These results are expected to support planned global regulatory submissions, including a Biologics License Application with the US Food and Drug Administration (FDA) anticipated in the second half of 2019.

DESTINY-Breast01 is a pivotal Phase II, open-label, global, multicentre, two-part trial of trastuzumab deruxtecan. The optimal dose of 5.4mg/kg was previously identified in part one of the trial. Today's results from part two evaluated the efficacy and safety of that dose in patients who have failed or discontinued previous treatment with trastuzumab emtansine.

Phase II trial met primary endpoint in HER2+ breast cancer

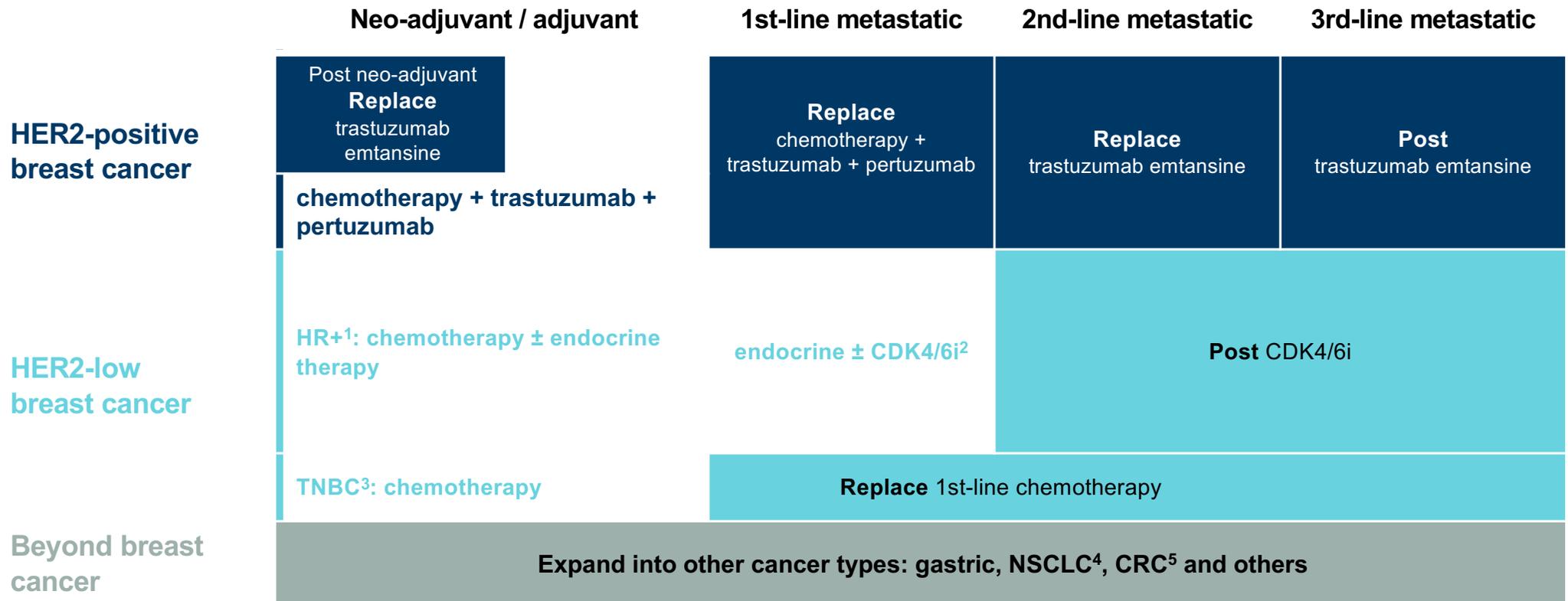
Source: Phase I, Tamura et al., *The Lancet Oncology*, 2019.

1. Disease control was calculated as the proportion of patients demonstrating complete response, partial response, or stable disease for a minimum of five weeks from the first dosing date 2. Not estimable.



Trastuzumab deruxtecan in breast cancer and beyond

Opportunities across treatment settings in breast cancer



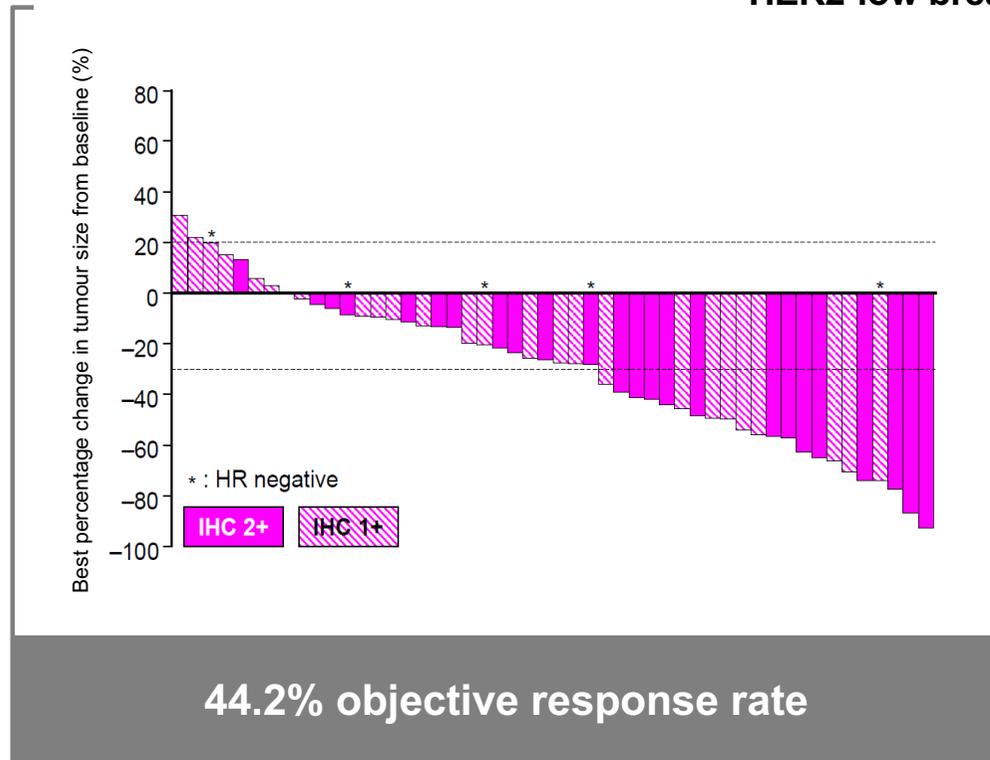
1. Hormone-receptor positive 2. Cyclin-dependent kinase 4/6 inhibitor 3. Triple-negative breast cancer 4. Non-small cell lung cancer 5. Colorectal cancer.



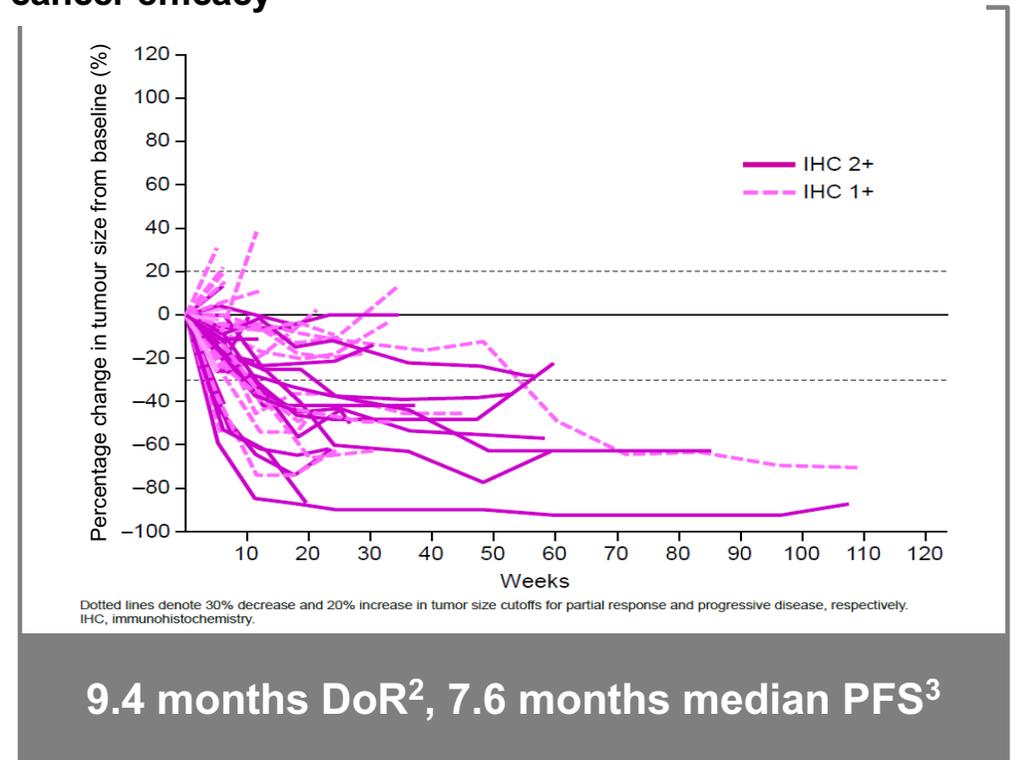
Trastuzumab deruxtecan

Encouraging efficacy in HER2-low breast cancer

HER2-low breast cancer efficacy



HR: hormone receptor.
 IHC: immunohistochemistry.
 Source: poster # p6-17-02, SABCS 2018 (based on 12 October 2018 data cut off).



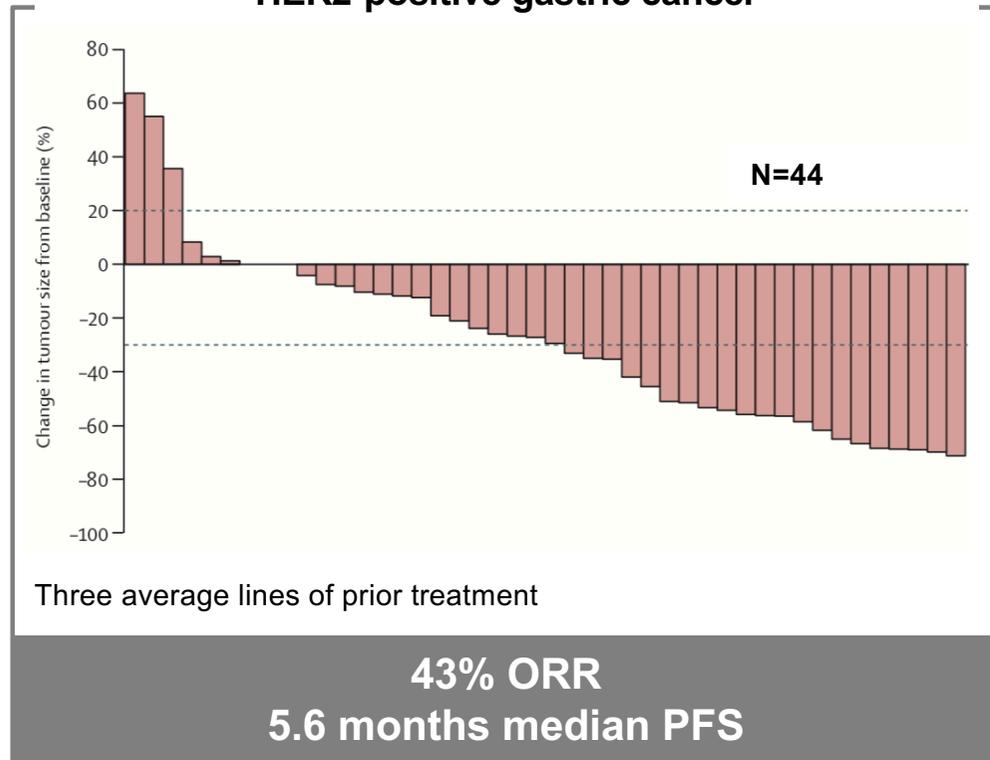
2. Duration of response.
 3. Progression-free survival.



Trastuzumab deruxtecan

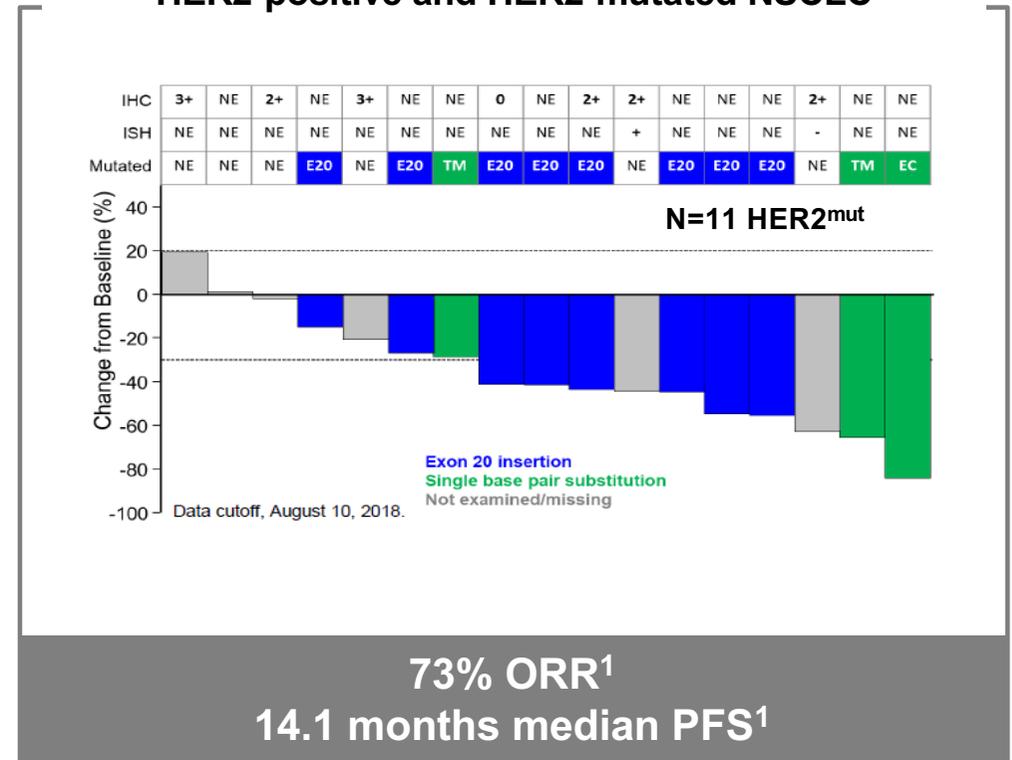
Compelling efficacy in other cancer types

HER2-positive gastric cancer



Source: Phase I, Shitara et al., *The Lancet Oncology*.

HER2-positive and HER2-mutated NSCLC



Source: abstract #13325, Tsurutani et al, WCLC 2018.
1. HER2-mutated NSCLC only.



Q&A



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