Cost-effectiveness of trastuzumab deruxtecan in patients with unresectable or metastatic HER2-low breast cancer who have received prior chemotherapy—Online Resource 1

Author list

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Table 1. Treatment regimens for T-DXd and each treatment in the TPC arm, including weight in TPC

Treatment	Dose	Doses per cycle	Dosing regimen	Percentage of TPC arm	Reference
T-DXd	5.4 mg/kg	1	Every 3 weeks	N/A	(1)
Eribulin	1.23 mg/m^2	2	On day 1 and 8 of a 3-week cycle	51.1%	(2)
Capecitabine	1250 mg/m^2	28	Twice daily for 14 days, followed by a 7-day gap	20.1%	(3)
Nab-paclitaxel	260 mg/m^2	1	Every 3 weeks	10.3%	(4)
Gemcitabine	1250 mg/m^2	2	On day 1 and 8 of a 3-week cycle	10.3%	(5)
Paclitaxel	175 mg/m^2	1	Every 3 weeks	8.2%	(6)

Notes: -

Key: T-DXd, trastuzumab deruxtecan; TPC, treatment of physician's choice

Table 2. Treatment and administration costs used in the model

Treatment costs			
Treatment	**Cost per vial**	**Cost per pack [pack size]**	**Reference; Item number**
T-DXd 100 mg	DKK 11,074.76		(7); 153855
Eribulin 0.88 mg	DKK 2,239.35		(7); 176930
Capecitabine 150 mg		DKK 666.98 [60]	(7); 161150
Capecitabine 300 mg		DKK 578.21 [60]	(7); 556687
Capecitabine 500 mg		DKK 577.20 [120]	(7); 581539
Nab-paclitaxel 100 mg	DKK 1,876.88		(7); 560085
Gemcitabine 1200 mg	DKK 321.86		(7); 550648
Gemcitabine 1400 mg	DKK 341.81		(7); 186162
Gemcitabine 1600 mg	DKK 361.76		(7); 193166
Gemcitabine 1800 mg	DKK 381.71		(7); 061608
Gemcitabine 2000 mg	DKK 396.68		(7); 109326
Gemcitabine 2200 mg	DKK 431.59		(7); 514179
Paclitaxel 100 mg	DKK 122.85		(7); 076384
Paclitaxel 300 mg	DKK 213.60		(7); 076395
Administration costs			
Administration route	**Cost**		**Reference**
Oral	DKK 0.00		Assumption
Parenteral	DKK 1,634		(8); DRG 09MA98

Notes: -

Key: DRG, diagnostic-related grouping; T-DXd, trastuzumab deruxtecan

Table 3. Resource use and costs, indirect costs, and transport costs used in the model

Resource use and costs			
Resource	**Cost**	**Frequency per cycle**	**Reference**
Specialist physician/ Oncologist	DKK 1,634.00	0.23[a]	(8, 9); DRG 09MA98
Blood tests	DKK 0.00	0.69[b]	(9); Assumed to be included in the DRG tariff for outpatient visits

ECHO scan	DKK 1,975.00	0.23[a]	(8, 9); DRG 05PRO04
CT-scanning	DKK 2,023.00	0.23[a]	(8, 9); DRG 30PRO7
Nurse visit	DKK 0.00	1.00[c]	(9); Assumed to be included in administration visits
Indirect costs	DKK 405.59	1	(10); Calculated
Transport costs	DKK 147.71	1	(10); Calculated

Notes: a) every 3 months; b) once a month; c) every 3 weeks

Key: CT, computerized tomography; DRG, diagnostic-related grouping; ECHO, echocardiogram

Table 4. Subsequent treatment costs and proportion of patients receiving each treatment

Treatment	Cost per vial	Cost per pack [pack size]	Regimen	Proportion of patients receiving treatment—T-DXd arm	Proportion of patients receiving treatment—TPC arm	References
Capecitabine 150 mg		DKK 666.98 [60]	1250 mg/m2	21.9%	18.3%	(7) 161150; DB-04
Eribulin 0.88 mg	DKK 2,239.35		1,23 mg/m2	30.6%	16.9%	(7) 176930; DB-04
Gemcitabine 1200 mg	DKK 321.86		1250 mg/m2	17.8%	20.4%	(7) 550648; DB-04
Paclitaxel 100 mg	DKK 122.85		175 mg/m2	24.0%	16.2%	(7) 076384; DB-04
Vinorelbine 10 mg	DKK 257.03		60 mg/m2	12.0%	25.4%	(7) 054238; DB-04
Fulvestrant 250 mg		DKK 474.45 [2]	500 mg	13.6%	14.8%	(7) 187830; DB-04
Epirubicin 50 mg	DKK 122.93		100 mg/m2	4.5%	4.9%	(7) 066645; DB-04
Carboplatin 150 mg	DKK 108.08		400 mg/m2	9.5%	14.8%	(7) 179942; DB-04
Tamoxifen 20 mg		DKK 162.26 [100]	20 mg	2.9%	2.1%	(7) 412924; DB-04

Notes: -

Key: DB-04, DESTINY-Breast04; T-DXd, trastuzumab deruxtecan; TPC, treatment of physician's choice

Table 5. Adverse events incidence and costs

Adverse event	Incidence – T-DXd arm	Incidence – TPC arm	Cost	Reference
Neutropenia	8.4%	28.5%	DKK 0.00	(9) Assumption, managed at administration visit
Anaemia	10.2%	5.2%	DKK 1,634	(8, 9) 09MA98
Thrombocytopenia	6.7%	17.4%	DKK 0.00	(9) Assumption, managed at administration visit
Leukopenia	5.4%	0.6%	DKK 0.00	(9) Assumption, managed at administration visit
Nausea	4.6%	0.0%	DKK 0.00	(9) Assumption, managed at administration visit
Decreased appetite	2.4%	1.2%	DKK 0.00	Assumption, managed at administration visit
Fatigue	5.4%	1.7%	DKK 0.00	(9) Assumption, managed at administration visit
Increased AST	3.2%	4.7%	DKK 0.00	(9) Assumption, managed at administration visit
ILD	12.1%	0.6%	DKK 45,905	(8, 9) 04MA17
LVEF decrease	4.6%	0.0%	DKK 31,680	(8) 05MP42

Notes: -

Key: AST, aspartate aminotransferase; ILD, interstitial lung disease; LVEF, left ventricular ejection fraction; T-DXd, trastuzumab deruxtecan; TPC, treatment of physician's choice

Table 6. Results from the scenario analyses: Incremental costs, QALYs gained, and resulting ICER

Scenario	Incremental costs	Incremental QALYs	ICER per QALY gained
Base case scenario	**DKK 621,325**	**0.78**	**DKK 795,181**
Discount rates - C: 0%, H: 0%	DKK 660,141	0.95	DKK 695,448
Discount rates - C: 6%, H: 6%	DKK 599,721	0.69	DKK 867,155
Time horizon - 10 years	DKK 600,474	0.67	DKK 890,296
Time horizon - 30 years	DKK 622,792	0.79	DKK 790,557
Background mortality - No	DKK 628,276	0.82	DKK 763,741
Vial Sharing - 75%	DKK 603,514	0.78	DKK 772,387
Vial Sharing - 25%	DKK 639,135	0.78	DKK 817,975
Prop. TPC txts distributed equally	DKK 643,585	0.78	DKK 823,671
HSUV - Treatment non-specific PP	DKK 621,325	0.68	DKK 908,959
Prop. subs txt distributed equally	DKK 614,628	0.78	DKK 786,611
T-DXd versus capecitabine	DKK 685,874	0.78	DKK 877,792
T-DXd versus eribulin	DKK 580,596	0.78	DKK 743,056
T-DXd versus gemcitabine	DKK 659,690	0.78	DKK 844,281
T-DXd versus paclitaxel	DKK 677,181	0.78	DKK 866,667
T-DXd versus nab-paclitaxel	DKK 614,585	0.78	DKK 786,556

Notes: -

Key: C, costs; H, health; HSUV, health state utility value; ICER, incremental cost-effectiveness ratio; PP, post progression; Prop, proportion; QALY, quality-adjusted life year; subs, subsequent; T-DXd, trastuzumab deruxtecan; TPC, treatment of physician's choice; txt, treatment

Table 7. Probabilistic results

Probabilistic results	
ICER (Cost/QALY)	**DKK 782,411**
Difference to the base case	DKK 12,770
ICER (Cost/LY)	DKK 711,259
Incremental QALYs	0.78
Incremental LYs	0.86
Incremental costs	DKK 612,454
No. of iterations	1,000

Notes: -

Key: ICER, incremental cost-effectiveness ratio; LY, life year; QALY, quality-adjusted life year

Table 8. The CHEERS 2022 checklist (11)

Section/topic	Item No.	Guidance for reporting	Reported (in section)
Title	1	Identify the study as an economic evaluation and specify the interventions being compared	Yes
Abstract	2	Provide a structured summary that highlights context, key methods, results, and alternative analyses	Yes
Introduction			
Background and objectives	3	Give the context for the study, the study question, and its practical relevance for decision-making in policy or practice	Yes
Methods			
Health economic analysis plan	4	Indicate whether a health economic analysis plan was developed and where is it available	N/A
Study population	5	Describe characteristics of the study population (such as age range, demographics, socioeconomic, or clinical characteristics)	Yes (Methods: Clinical data)
Setting and location	6	Provide relevant contextual information that may influence findings	Yes (Methods: Scenario analysis)
Comparators	7	Describe the interventions or strategies being compared and why chosen	Yes (Methods: Intervention and comparators)
Perspective	8	State the perspective(s) adopted by the study and why chosen	Yes (Methods: Model structure)
Time horizon	9	State the time horizon for the study and why appropriate	Yes (Methods: Model structure)
Discount rate	10	Report the discount rate(s) and reason chosen.	Yes (Methods: Model structure)
Selection of outcomes	11	Describe what outcomes were used as the measure(s) of benefit(s) and harm(s).	Yes (Methods: Model structure)
Measurement of outcomes	12	Describe how outcomes used to capture benefit(s) and harm(s) were measured.	N/A
Valuation of outcomes	13	Describe the population and methods used to measure and value outcomes	Yes (Methods: Model structure)
Measurement and valuation of resources and costs	14	Describe how costs were valued	Yes (Methods: Cost and resource use)
Currency, price date, and conversion	15	Report the dates of the estimated resource quantities and unit costs, plus the currency and year of conversion	Yes (Methods: Cost and resource use)
Rationale and description of the model	16	If modelling is used, describe in detail how and why it was used. Report whether the model is publicly available and, if so, provide the information on where it can be accessed.	Yes (Methods: Model structure)
Analytics and assumptions	17	Describe any methods used for analysing or statistically transforming data and any extrapolation methods, and approaches for validating any model used.	Yes (Methods: Model structure, Clinical data)
Characterising heterogeneity	18	Describe any methods used for estimating how the results of the study vary for subgroups.	N/A

Characterising distributional effects	19	Describe how impacts were distributed across different individuals or adjustments were made to reflect priority populations.	N/A
Characterising uncertainty	20	Describe methods to characterise any sources of uncertainty in the analysis	Yes (Methods: Sensitivity analyses & scenario analyses)
Approach to engagement with patients and others affected by the study	21	Describe any approaches to engage patients or service recipients, the general public, communities, or stakeholders (such as clinicians or payers) in the design of the study.	N/A
Results			
Study parameters	22	Report all analytic inputs (such as values, ranges, and references) including uncertainty or distributional assumptions.	Yes (Methods)
Summary of main results	23	Report the mean values for the main categories of costs and outcomes of interest and summarise them in the most appropriate overall measure.	Yes (Deterministic results)
Effect of uncertainty	24	Describe how uncertainty about analytic judgments, inputs, or projections affected findings. Report the effect of the choice of discount rate and time horizon, if applicable.	Yes (One-way sensitivity analysis and scenario analysis
Effect of engagement with patients and others affected by the study	25	Report on any difference patient/service recipient, general public, community, or stakeholder involvement made to the approach or findings of the study	N/A
Discussion			
Study findings, limitations, generalisability, and current knowledge	26	Report key findings, limitations, ethical or equity considerations that were not captured, and how these could affect patients, policy, or practice.	Yes
Other relevant information			
Source of funding	27	Describe how the study was funded and any role of the funder in the identification, design, conduct, and reporting of the analysis	Yes
Conflicts of interest	28	Report authors' conflicts of interest according to journal or International Committee of Medical Journal Editors' requirements	Yes

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