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1. **Supplemental Methods**

**1.1 Trial design and patient population of the COAPT trial**

In brief, the Cardiovascular Outcomes Assessment of the MitraClip Percutaneous Therapy for Heart Failure Patients With Functional Mitral Regurgitation (COAPT) trial was a multicenter, randomized, controlled, parallel-group, open-label trial of transcatheter mitral-valve repair with the MitraClip device in symptomatic heart failure (HF) patients. Eligible patients suffered from ischemic or nonischemic cardiomyopathy with a left ventricular ejection fraction of 20% to 50%, had moderate-to-severe (grade 3+) or severe (grade 4+) secondary mitral regurgitation (MR), and remained symptomatic [New York Heart Association (NYHA) class II, III, or IVa] despite the use of stable maximal doses of guideline-directed medical therapy (GDMT). After enrollment, patients were randomly assigned in a 1:1 ratio to undergo transcatheter edge-to-edge repair with MitraClip plus GDMT (device group) or to receive GDMT alone (GDMT group). In the end, 302 were assigned to the device group and 312 to the GDMT group. Clinical follow-up (including NYHA class, hospitalization, and death) were performed at 30 days, 6 months, 1 year, 18 months, and 2, 3, 4, and 5 years. After the first 2-year follow-up, crossover treatment with MitraClip was permitted in patients in the GDMT group who met all the original enrollment criteria. Details of the design, baseline characteristics, and 5-year follow-up results of the COAPT trial have been published previously.

**1.2 All-cause mortality and distributions of the New York Heart Association in the model**

Death from any cause through 5 years occurred in 162 patients (57.3%) in the device group and in 189 patients (67.2%) in the GDMT group. The all-cause mortalities at 30 days, 6 months, 1 year, 18 months, and 2, 3, and 4 years in each group were derived from the Kaplan-Meier curve of the COAPT trial(**Supplemental** **Table 1**).

Then, in survivors at each visit, we assumed that patients who lost follow-up or did not have HYNA class data shared a similar distribution as patients whose NYHA class data were available. From the baseline to the 5th year in the decision model, proportions of five health states in each group were estimated according to the follow-up data of the COAPT trial at 30 days, 6 months, 1 year, 18 months, and 2, 3, 4, and 5 years published in a previous study(**Supplemental Table 1**). The column chart of NYHA classes at different time points were displayed in the Figure S5 of the COAPT trial.

**1.3 Data of costs in the model**

Medical costs during follow-up from clinical trials were not considered representative for routine clinical practice because strict monitoring for safety and effectiveness usually led to more medical expense. Therefore, inputs on resource utilization and costs (HF re-hospitalization, background resource, and drug costs during follow-up) in our model were derived from up-to-date studies which were nationally representative for China, the UK, Germany, and the US if available, public data of national websites, or other sources wherever possible. All costs were calculated and expressed in 2022 Renminbi/British pound/Euro/US dollar (**Supplemental Table 2**).

**China**

The cost of HF re-hospitalization was derived from a population-based study using records of 50.0 million individuals ≥ 25 years old from an urban employee basic medical insurance from 6 provinces. In this study, a total of 132,297 HF patients were hospitalized in 2017 and the estimated mean cost per episode was $1,328.6 (¥6.75 = $1 in 2017). Because the mean age of our simulated cohort was 72.2 years old, cost per episode of HF re-hospitalization used in our model was $1,218.4 which was age-specific for patients who were 65-79 years old. Annual per-capita outpatient cost ($992.8) was also derived from this study and because the cost of medicine would be calculated independently, the drug cost ($679) in the outpatient cost was extracted and finally the annual per-capita outpatient cost was $313.8. The Consumer Price Indexes for healthcare from 2018 to 2022 and the gross domestic product per capita in 2022 (¥85,698) were derived from the national bureau of statistics in China.

**United Kingdom**

Cost of HF re-hospitalization was defined as the mean cost of non-elective long stay for HF. Data (£3,758.0 per episode) was derived from the National Health Service (NHS) reference costs 2021 to 2022 which was available from its website. Drug costs for GDMT were extracted from national databases in Monthly Index of Medical Specialities (MIMS) and was computed as a weighted average cost based on the HF medication classes at baseline in the total cohort of COAPT trial, and the annual per capita cost for GDMT drugs was estimated to be £480. Costs of background resource use included contact with primary care, cardiologist visit and A&E (Accident & Emergency) referrals and the mean annual cost was £878 per person in 2019. The Consumer Price Indexes for healthcare from 2019 to 2022 were derived from the Office for National Statistics.

**Germany**

Costs of HF hospitalization, background resource, and drugs were derived from ten sub-projects of the German Competence Network Heart Failure (CNHF) recruiting 2,710 patients who suffered from symptomatic systolic chronic HF and had reduced left ventricular ejection fraction (LVEF < 50%). In this study, the cost of HF hospitalization per episode was €2,874. The costs of background resource use included outpatient physician contacts and rehabilitation, and the mean annual costs per capita was €532. The Consumer Price Indexes for healthcare from 2008 to 2022 and the gross domestic product per capita in 2022 (€46,149) were derived from the website of Statistisches Bundesamt.

**United States**

The cost of HF hospitalization in the US was derived from the 2014 dataset of the National Readmission Database (NRD) containing the US hospital level data from 22 partner states of the Healthcare Cost and Utilization Project (HCUP) . The HCUP that were geographically dispersed which account for 51.2% of the total US resident population and 49.3% of all hospitalization. Based on the NRD, the cost of HF per episode was $11,602. Other HF-related cost, including outpatient and prescription medication, were based on the data of annual expenditures from the Medical Expenditure Panel Survey (MEPS) Household Component between 2009 and 2018. MEPS was a nationally representative survey of the US civilian noninstitutionalized population. In 2017-2018, annual per-capita medications and outpatient costs were $6,063 and $1,825, respectively. The Consumer Price Indexes from 2014 to 2022 were derived from the website of the United States government.

**1.4 Calculation for accumulated health utility, accumulated costs, and ICER**

In order to evaluate the long-term (life-time horizon) difference between groups, our model was performed until the age of the base case was 100.2 years old (28 years).

**1.4.1 Calculation for accumulated health utility**

Accumulated health utility (QALY expectancy) was calculated as a time-weighted average of utility values with the midpoint between assessments used as the transition between different health states, along with dis-utilities if HF hospitalizations occurred. All future utilities were discounted using country-specific rates (5% for mainland China, 3.5% for the UK, and 3% for Germany and the US). In the decision model, the formula for accumulated health utility is

*x* (*x* ≤ 5) is the year in which we want to calculate the accumulated health utility; PNYHA is the proportion of NYHA class at the beginning of a certain year; UNYHA is the utility of NYHA class; TNYHA is the time span of a certain NYHA class (It should be emphasized that the midpoint time between assessments is used as the transition between different health states); Pdeath is the proportion of death at the beginning of a certain year; PHFH is the annualized risk of HF re-hospitalization; UHFH is the dis-utility for HF re-hospitalization; Rdiscount is the country-specific discount rate.

For example, according to **Table S1 and Table S2**, the accumulated health utility of 1 year in the MitraClip group in mainland China is

Udevice(1) = [(0.2%\*0.815\*1/24+39.0%\*0.720\*1/24+52.5%\*0.59\*1/24+8.3%\*0.508\*1/24)

+ (15.1%\*0.815\*3/12+59.8%\*0.720\*3/12+18.8%\*0.59\*3/12+4.0%\*0.508\*3/12) + (18.1%\*0.815\*11/24+49.6%\*0.720\*11/24+19.6%\*0.59\*11/24+2.7%\*0.508\*11/24) + (14.5%\*0.815\*3/12+49.0%\*0.720\*3/12+15.3%\*0.59\*3/12+2.5%\*0.508\*3/12) - 0.321\*1/12\*1\*33.10%] / (1+0.05)1-1 = 0.622858458 QALY

The accumulated utilities of 2, 3, 4, and 5 years in the MitraClip group in mainland China are

Udevice(2) = U1 + [(14.5%\*0.815\*3/12+49.0%\*0.720\*3/12+15.3%\*0.59\*3/12+2.5%\*0.508\*3/12) + (12.0%\*0.815\*6/12+46.7%\*0.720\*6/12+15.4%\*0.59\*6/12+1.8%\*0.508\*6/12) + (13%\*0.815\*3/12+37%\*0.720\*3/12+18.4%\*0.59\*3/12+4.3%\*0.508\*3/12) - 0.321\*1/12\*(1-18.7%)\*33.10%] / (1+5%)2-1 = 0.622858458 + 0.503807852 = 1.12666631 QALY

Udevice(3) = 1.539077159 QALY

Udevice(4) = 1.871146277 QALY

Udevice(5) = 2.136515009 QALY

As for the Markov part of our two-stage model, the accumulated health utility of 6 years in the MitraClip group in China is

Udevice(6)= U(5) + [(7.7%\*0.815+20.7%\*0.720+12.1%\*0.59+2.2%\*0.508)\*0.5 + (1-57.3%)\*(1-16.3%)\*(17.0%\*0.815+54.9%\*0.720+24.0%\*0.59+4.1%\*0.508)\*0.5 - 0.321\*1/12\*(1-57.3%)\*33.10%]/(1+5%)6-1= 2.136515009 + 0.20984452 = 2.346359529 QALY

As for the Markov part of our two-stage model, the formula for accumulated health utility after 6 years is

x (x≥7) is the year in which we want to calculate the accumulated health utility; Pdeath5 is the proportion of death at the end of the 5th year; Pdeath-Markov is the annualized risk of all-cause death in survivors; PNYHA is the proportion of NYHA class in survivors in the Markov model; UNYHA is the utility of NYHA class; T is the time span for all NYHA classes, which is 0.5 year in this formula; PHFH is the annualized risk of HF re-hospitalization; UHFH is the dis-utility for HF re-hospitalization; Rdiscount is the country-specific discount rate.

For example, the accumulated health utility of 7 years in the MitraClip group in mainland China is

Udevice(7)=U(6)+{[(1-57.3%)\*(1-16.3%)+(1-57.3%)\*(1-16.3%)2]\*(17.0%\*0.815+54.9%\*0.720+24.0%\*0.59+4.1%\*0.508)\*0.5 - (1-57.3%)\*(1-16.3%)\*0.321\*1/12\*33.10%]} / (1+5%)7-1= 2.346359529 + 0.16819456 = 2.514554089 QALY

Udevice(10) = 2.840702423 QALY

Udevice(20) = 3.140803748 QALY

Udevice(28) = 3.169167965 QALY

**1.4.2 Calculation for accumulated cost**

Accumulated cost was calculated according to the use of MitraClip, health states, and the number of HF re-hospitalizations. Cost of MitralClip was calculated based on the result that MitraClip was attempted in 293 of 302 patients in the device group at baseline in COAPT, and index HF hospitalization cost was only calculated in the device group, too. The All future costs were discounted using country-specific rates (5% for China, 3.5% for the UK, and 3% for Germany and the US). In the decision model, the formula for accumulated costs is

*x* (*x*≤5) is the year in which we want to calculate the accumulated costs; when calculating the accumulated cost for the MitraClip group, m was 1, otherwise m was 0; PMitraClip is the proportion of patients with MitraClip attempts which is 293/302; Cdevice is the cost of the MitraClip device; Cindex-HF is the cost of index HF hospitalization; Psurvivor is the proportion of survivors at the beginning of a certain year; P’survivor is the proportion of survivors at the end of a certain year; Cbackground is the annual per-capita cost of HF background resources; Cdrugs is the annual per-capita cost of drugs; Pdeath is the proportion of death at the beginning of a certain year; PHFH is the annualized risk of HF re-hospitalization; CHFH is the cost for HF re-hospitalization per episode; Rdiscount is the country-specific discount rate.

For example, according to Table 1 and Table 2, the accumulated cost of 1 year in the MitraClip group in mainland China is

Cdevice(1) = [(293/302\*322000+18063)\*1 + 100%\*(2326.1+5032.8)\*0.5 + (100%-18.7%)\*(2326.1+5032.8)\*0.5 + (100%-0%)\*33.10%\*9031.1]/(1+0.05)1-1 ≈ ¥340127

The accumulated costs of 2, 3, 4, and 5 years in the MitraClip group in mainland China are

Cdevice(2) = C(1) + [(100%-18.7%)\*(2326.1+5032.8)\*0.5 + (100%-27.3%)\*(2326.1+5032.8)\*0.5 + (100%-18.7%)\*33.10%\*9031.1] /(1+0.05)2-1 = 340127 + 8096.649103/1.05 = 340127+ 7711.094384 ≈ ¥347838

Cdevice(3) ≈ ¥354,228

Cdevice(4) ≈ ¥359,311

Cdevice(5) ≈ ¥363,440

As for the Markov part of our two-stage model, the formula for accumulated costs is

x (x≧6) is the year in which we want to calculate the accumulated costs; C(5) is the accumulated costs of 5 years; Pdeath5 is the proportion of death at the end of the 5th year; Pdeath-markov is the annualized risk of all-cause death in the markov model; Cbackground is the annual per-capita cost of HF background resources; Cdrugs is the annual per-capita cost of drugs; PHFH is the annualized risk of HF re-hospitalization; CHFH is the cost for HF re-hospitalization per episode; Rdiscount is the country-specific discount rate.

For example, according to Table 1 and Table 2, the accumulated costs of 6 years in the MitraClip group in mainland China is

Cdevice(6) = C(5) +{[(1-57.3%)\*(1-16.3%)6-6 + (1-57.3%)\*(1-16.3%)6-5]\*(2326.1+5032.8)\*0.5 + (1-57.3%)\*(1-16.3%)6-6\*33.10%\*9031.1}/(1+0.05)6-1 = 363,440 + 3261 ≈ ¥366,701

Cdevice(7) ≈ ¥369,301

Cdevice(10) ≈ ¥374,343

Cdevice(20) ≈ ¥378,982

Cdevice(28) ≈ ¥379,423

**1.4.3 Calculation for ICER**

The primary outcome of this study was the life-time incremental cost-effectiveness ratio (ICER) which was calculated by dividing the differences in accumulated costs and accumulated health utility (QALY expectancy) between the device group and the GDMT group. The formula for ICER is

Cdevice(x) is the accumulated cost of the device group of x years; CGDMT(x) is the accumulated cost of the GDMT group of x years; Udevice(x) is the accumulated health utility of the device group of x years; UGDMT(x) is the accumulated health utility of the GDMT group of x years.

For example, the ICER for a life-time horizon in mainland China is

ICER(28) = [Cdevice(28) - CGDMT(28)]/[Udevice(28) - UGDMT(28)]

= [379423 - 49143]/[3.169167965 - 2.464137651]

= 330280/0.705030314

≈ ¥ 468462/QALY

1. **Supplemental Tables**

**Supplemental Table 1. Proportions of five health states in the two-stage model**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Follow-up** | **NYHA I** | **NYHA II** | **NYHA III** | **NYHA IV** | **Death** |
|  | **Proportion for the decision model** | | | | |
| Baseline | 0.2% | 39.0% | 52.5% | 8.3% | 0% |
| 30 days |  |  |  |  |  |
| Device group | 15.1% | 59.8% | 18.8% | 4.0% | 2.3% |
| GDMT group | 4.5% | 42.9% | 41.4% | 10.2% | 1% |
| 6 months |  |  |  |  |  |
| Device group | 18.1% | 49.6% | 19.6% | 2.7% | 10.0% |
| GDMT group | 4.8% | 44.2% | 37.0% | 2.8% | 11.2% |
| 1 year |  |  |  |  |  |
| Device group | 14.5% | 49.0% | 15.3% | 2.5% | 18.7% |
| GDMT group | 6.8% | 39.5% | 25.9% | 4.6% | 23.2% |
| 18 months |  |  |  |  |  |
| Device group | 12.0% | 46.7% | 15.4% | 1.8% | 24.1% |
| GDMT group | 7.0% | 36.6% | 19.1% | 4.7% | 32.6% |
| 2 years |  |  |  |  |  |
| Device group | 13.0% | 37.0% | 18.4% | 4.3% | 27.3% |
| GDMT group | 4.5% | 28.2% | 22.3% | 3.1% | 41.9% |
| 3 years |  |  |  |  |  |
| Device group | 10.0% | 35.5% | 12.5% | 1.7% | 40.3% |
| GDMT group | 7.1% | 22.2% | 14.2% | 2.8% | 53.7% |
| 4 years |  |  |  |  |  |
| Device group | 8.3% | 29.3% | 11.8% | 2.3% | 48.3% |
| GDMT group | 4.6% | 18.5% | 12.3% | 2.6% | 62.0% |
| 5 years |  |  |  |  |  |
| Device group | 7.7% | 20.7% | 12.1% | 2.2% | 57.3% |
| GDMT group | 5.7% | 14.0% | 13.1% | 0% | 67.2% |
| After 5 years | Proportion of NYHA classes in survivors in Markov model | | | | |
| Device group | 17.0% | 54.9% | 24.0% | 4.1% |  |
| GDMT group | 14.9% | 46.4% | 34.3% | 4.4% |  |

GDMT, guideline directed medical treatment; NYHA, New York Heart Association.

**Supplemental Table 2. Distributions of variables in probabilistic sensitivity analysis**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **Distribution** | **Mean** | **SE** | **alpha** | **beta** |
| **Utility** | | | | | |
| NYHA I | beta | 0.815 | 0.04 | 75.99 | 17.25 |
| NYHA II | beta | 0.720 | 0.03 | 160.56 | 62.44 |
| NYHA III | beta | 0.590 | 0.02 | 356.21 | 247.54 |
| NYHA IV | beta | 0.508 | 0.02 | 316.91 | 306.93 |
| Dis-utility of HF re-hospitalization | beta | 0.02675 | 0.005 | 27.83 | 1012.55 |
| **Annualized risks of HF re-hospitalization in the two-stage model** | | | | | |
| Device group | beta | 33.1% | 2.71% | 99.47 | 201.05 |
| GDMT group | beta | 57.2% | 2.80% | 178.04 | 133.22 |
| **Annualized risk of mortality in the Markov model** | | | | | |
| Device group | beta | 16.3% | 2.58% | 33.25 | 170.72 |
| GDMT group | beta | 17.4% | 3.30% | 22.79 | 108.19 |
| **Cost for China** | | | | | |
| index hospitalization cost | Gamma | 18063.0 | 9031.5 | 4 | 4515.75 |
| Drug (annual cost per patient) | Gamma | 5032.8 | 2516.4 | 4 | 1258.2 |
| HF background resource (annual cost per patient) | Gamma | 2326.1 | 1163.05 | 4 | 581.53 |
| HF hospitalization (per episode) | Gamma | 9031.5 | 4515.75 | 4 | 2257.88 |
| **Cost for the UK** | | | | | |
| index hospitalization cost | Gamma | 7516.0 | 3758.0 | 4 | 1879.0 |
| Drug (annual cost per patient) | Gamma | 480.0 | 240.0 | 4 | 120.0 |
| HF background resource (annual cost per patient) | Gamma | 936.2 | 468.1 | 4 | 234.05 |
| HF hospitalization (per episode) | Gamma | 3758.0 | 1879.0 | 4 | 939.5 |
| **Cost for Germany** | | | | | |
| index hospitalization cost | Gamma | 6430.2 | 3215.1 | 4 | 1607.55 |
| Drug (annual cost per patient) | Gamma | 324.4 | 162.2 | 4 | 81.1 |
| HF background resource (annual cost per patient) | Gamma | 595.1 | 297.55 | 4 | 148.78 |
| HF hospitalization (per episode) | Gamma | 3215.1 | 1607.55 | 4 | 803.78 |
| **Cost for the US** | | | | | |
| index hospitalization cost | Gamma | 28657 | 14328.5 | 4 | 7164.25 |
| Drug (annual cost per patient) | Gamma | 7063 | 3531.5 | 4 | 1765.75 |
| HF background resource (annual cost per patient) | Gamma | 2126 | 1063 | 4 | 531.5 |
| HF hospitalization (per episode) | Gamma | 14328.5 | 7164.25 | 4 | 3582.13 |

GDMT, guideline directed medical treatment; HF, heart failure; NYHA, New York Heart Association; SE, standardized error; UK, United kingdom; US, United States.

**Supplemental Table 3. Proportions of different costs for a lifetime horizon in the model**

|  |  |  |  |
| --- | --- | --- | --- |
| **Costs** | **Device group** | **GDMT group** | **Incremental** |
| **China** | | | |
| Total | ￥379,423 | ￥49,143 | ￥330,280 |
| MitraClip device | ￥312,404  (82.34%) | ￥0  (0%) | ￥312,404 |
| Index hospitalization (excluding the MitraClip device) | ￥18,063  (4.76%) | ￥0  (0%) | ￥18,063 |
| HF re-hospitalization during follow-up | ￥14,992  (3.95%) | ￥21,546  (43.85%) | -￥6,554 |
| Drugs and background resources during follow-up | ￥33,964  (8.95%) | ￥27,597  (56.16%) | ￥6,367 |
| **UK** | | | |
| Total | £37,070 | £15,041 | £ 22,029 |
| MitraClip device | £16,008  (43.18%) | £0  (0%) | £16,008 |
| Index hospitalization (excluding the MitraClip device) | £7,516  (20.28%) | £0  (0%) | £7,516 |
| HF re-hospitalization during follow-up | £6,615  (17.84%) | £9,443  (62.78%) | - £ 2,828 |
| Drugs and background resources during follow-up | £6,931  (18.70%) | £5,598  (37.22%) | £1,333 |
| **Germany** | | | |
| Total | €32,325 | €11,930 | €20,395 |
| MitraClip device | €15,523  (48.02%) | €0  (0%) | €15,523 |
| Index hospitalization (excluding the MitraClip device) | €6,430  (19.89%) | €0  (0%) | €6,430 |
| HF re-hospitalization during follow-up | €5,778  (17.87%) | €8,228  (68.97%) | - €2,450 |
| Drugs and background resources during follow-up | €4,594  (14.21%) | €3,702  (31.03%) | €892 |
| **US** | | | |
| Total | $129,419 | $73,668 | $55,751 |
| MitraClip device | $29,106  (22.49%) | $0  (0%) | $29,106 |
| Index hospitalization (excluding the MitraClip device) | $28,657  (22.14%) | $0  (0%) | $28,657 |
| HF re-hospitalization during follow-up | $25,750  (19.90%) | $36,670  (49.78%) | - $10,920 |
| Drugs and background resources during follow-up | $45,906  (35.47%) | $36,998  (50.22%) | $8,908 |

Costs were expressed as absolute value (proportion in total costs), and the decimal portion was rounded.

GDMT, guideline directed medical treatment; HF, heart failure; UK, United kingdom; US, United States.

**Supplemental Table 4. Effect of time span on ICER**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Time span (year)** | **ICER (currency/QALY)** | | | |
|  | China | UK | Germany | US |
| 1 | ¥6,321,600 | £435,940 | €408,009 | $1,049,248 |
| 2 | ¥2,440390 | £163,616 | €152,750 | $390,102 |
| 3 | ¥1,388,958 | £91,701 | €85,242 | $219,245 |
| 4 | ¥1,003,333 | £65,534 | €60,673 | $157,453 |
| 5 | ¥822,660 | £53,336 | €49,206 | $128,817 |
| 6 | ¥725,760 | £46,715 | €42,979 | $113,160 |
| 7 | ¥659,609 | £42,194 | €38,720 | $102,477 |
| 8 | ¥613,550 | £39,042 | €35,745 | $95,041 |
| 9 | ¥580,231 | £36,758 | €33,584 | $89,660 |
| 10 | ¥555,458 | £35,055 | €31,968 | $85,653 |
| 11 | ¥536,664 | £33,758 | €30,734 | $82,605 |
| 12 | ¥522,187 | £32,755 | €29,777 | $80,248 |
| 13 | ¥510,907 | £31,969 | €29,025 | $78,403 |
| 14 | ¥502,040 | £31,348 | €28,428 | $76,945 |
| 15 | ¥495,021 | £30,853 | €27,951 | $75,783 |
| 16 | ¥489,436 | £30,457 | €27,567 | $74,851 |
| 17 | ¥484,974 | £30,137 | €27,257 | $74,100 |
| 18 | ¥481,397 | £29,879 | €27,006 | $73,492 |
| 19 | ¥478,523 | £29,670 | €26,801 | $72,999 |
| 20 | ¥476,210 | £29,500 | €26,634 | $72,598 |
| 21 | ¥474, 345 | £29,361 | €26,497 | $72,271 |
| 22 | ¥472,840 | £29,249 | €26,385 | $72,004 |
| 23 | ¥471,624 | £29,157 | €26,293 | $71,786 |
| 24 | ¥470,643 | £29,081 | €26,218 | $71,607 |
| 25 | ¥469,849 | £29,020 | €26,156 | $71,460 |
| 26 | ¥469,208 | £28,970 | €26,106 | $71,340 |
| 27 | ¥468,689 | £28,929 | €26,064 | $71,242 |
| 28 | ¥468,462 | £28,910 | €26,045 | $71,199 |

ICER, incremental cost-effectiveness ratio; QALY, quality-adjusted life-year; UK, United Kingdom; US, United States.

**Supplemental Table 5. ICER based on country-specific life expectancy by gender**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Life expectancy | Age (Simulation time) | ICER |
| China |  |  |  |
| Total | 78.1 | 77.2 (5) | ¥822,660/QALY |
|  |  | 78.2 (6) | ¥725,760/QALY |
| Male | 75.3 | 75.2 (3) | ¥1,388,958/QALY |
|  |  | 76.2 (4) | ¥1,003,333/QALY |
| Female | 81.1 | 80.2 (8) | ¥613,550QALY |
|  |  | 81.2 (9) | ¥580,231/QALY |
| UK |  |  |  |
| Total | 80.9 | 80.2 (8) | £39,042/QALY |
|  |  | 81.2 (9) | £36,758/QALY |
| Male | 79.0 | 78.2 (6) | £46,715/QALY |
|  |  | 79.2 (7) | £42,194/QALY |
| Female | 82.9 | 82.2 (10) | £35,055/QALY |
|  |  | 83.2 (11) | £33,758/QALY |
| Germany |  |  |  |
| Total | 80.9 | 80.2 (8) | €35,745/QALY |
|  |  | 81.2 (9) | €33,584/QALY |
| Male | 78.6 | 78.2 (6) | €42,979/QALY |
|  |  | 79.2 (7) | €38,720/QALY |
| Female | 83.4 | 83.2 (11) | €30,734/QALY |
|  |  | 84.2 (12) | €29,777/QALY |
| US |  |  |  |
| Total | 77.3 | 77.2 (5) | $128,817/QALY |
|  |  | 78.2 (6) | $113,160/QALY |
| Male | 74.5 | 74.2 (2) | $390,102/QALY |
|  |  | 75.2 (3) | $219,245/QALY |
| Female | 80.2 | 80.2 (8) | $95,041/QALY |

The base case was 72.2 years old.

ICER, incremental cost-effectiveness ratio; QALY, quality-adjusted life-year; UK, United Kingdom; US, United States.

**3. Supplemental Figures**

**Supplemental Figure 1. Effect of the cost of MitraClip on incremental cost-effectiveness ratio in mainland China**

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QALY, quality-adjusted life-year; WTP, willingness-to-pay.

**Supplemental Figure 2. One-way sensitivity analysis in four countries**

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GDMT, guideline-directed medical therapy; HFH, heart failure re-hospitalization; ICER, incremental cost-effectiveness ratio; NYHA, New York Heart Association; QALY, quality-adjusted life-year.