

Supplemental Material

Title

Cost-effectiveness analysis of Fluocinolone Acetonide Intravitreal (FAI) Implant for chronic noninfectious uveitis affecting the posterior segment of the eye (NIU-PS) in China

Authors

Xin Mao^{1#}, Zhanjing Dai^{1#}, Jing Yang¹, Yuhang Wu¹, Fan Xie¹, Yun Lu¹, Jie Yu¹, Feng Chang^{1*}, Yuqiong Lu^{1*}

[#]Xin Mao and Zhanjing Dai contributed equally to this study and shared the first authorship.

Author affiliations

¹ School of International Pharmaceutical Business, China Pharmaceutical University, Nanjing 211198, China

Corresponding authors

(*These authors contribute as co-corresponding authors.)

*Yuqiong Lu, luyuqiong96@foxmail.com, School of International Pharmaceutical Business, China Pharmaceutical University, Nanjing 211198, China.

*Feng Chang, cpucf@163.com, School of International Pharmaceutical Business, China Pharmaceutical University, Nanjing 211198, China.

There are five Supplementary Tables included in the Supplementary Information.

Supplementary Table S1. Proportions of concomitant treatments over 6 months (13 cycles) within the FAI implant arm.

Supplementary Table S2. Unit cost and proportions of drugs in the LCP arm and concomitant treatments of the FAI implant arm.

Supplementary Table S3. Pre-surgery concomitant treatments.

Supplementary Table S4. Unit cost and frequency of examinations.

Supplementary Table S5. Unit cost and proportions of drugs in subsequent therapies.

**Supplementary Table S1. Proportions of concomitant treatments over 6 months
(13 cycles) within the FAI implant arm ^a**

Time	Systemic steroid (%)	Topical steroid eye drops (%)	Local steroid injections (%)	Immunosuppressive drugs (%)	Biologics (%)
Baseline (cycle 1-2)	45.31%	43.44%	52.38%	40.63%	12.50%
Month 1 (cycle 2-7)	36.36%	12.73%	0.00%	34.55%	12.73%
Month 3 (cycle 7-13)	31.31%	7.46%	1.47%	29.85%	11.94%
Month 6 (cycle 13-)	28.99%	28.99%	13.04%	15.94%	4.35%

^a Source from the FAI Chinese real-world study

Supplementary Table S2. Unit cost and proportions of drugs in the LCP arm and concomitant treatments of the FAI implant arm

Parameters ^a	Value	Source	Proportion of patients ^a
Systemic steroid			
Prednisone acetate tablets 5mg	\$0.01[¥0.08]	MENET	69.57%
Methylprednisolone tablets 4mg	\$0.08[¥0.56]		34.78%
Topical steroid eye drops			
Prednisolone acetate eye drops 5ml	\$4.27[¥28.77]	MENET	60.00%
Tobramycin dexamethasone eye ointment 3.5mg	\$3.28[¥22.09]		25.00%
Tobramycin dexamethasone eye drops 5ml	\$1.44[¥9.71]		25.00%
Fluorometholone eye drops 5ml	\$2.00[¥13.48]		20.00%
Local steroid injections			
Triamcinolone acetonide injection 40mg	\$1.11[¥7.48]	MENET	75.00%
Methylprednisolone sodium succinate for injection 40mg	\$1.49[¥10.07]		25.00%
Immunosuppressive drugs			
Ciclosporin capsules 25mg	\$0.53[¥3.60]	MENET	45.83%
Methotrexate tablets 2.5mg	\$0.18[¥1.21]		37.50%
Tacrolimus capsules 1mg	\$1.93[¥13.00]		16.67%
Azathioprine tablets 50mg	\$0.16[¥1.07]		29.17%
Cyclophosphamide tablets 50mg	\$0.79[¥5.30]		8.33%
Mycophenolate mofetil tablets 500mg	\$2.02[¥13.65]		4.17%
Tofacitinib citrate tablets 5mg	\$1.52[¥10.28]		4.17%
Biologics			
Infliximab for injection 100mg	\$215.53[¥1,452.70]	MENET	15.00%
Adalimumab solution for injection 40mg	\$153.54[¥1,034.86]		85.00%

^a Source from the FAI Chinese real-world study

Note. When calculating the drug costs, the assumption was made that each eye drop was 0.05 ml, and each fingertip eye paste was 0.5 g (2.5 cm).

Supplementary Table S3. Pre-surgery concomitant treatments

Parameters^a	Value	Source
Proparacaine hydrochloride eye drops 15ml	\$4.92[¥33.14]	MENET
Levofloxacin hydrochloride eye drops 5ml	\$2.67[¥18.00]	
Tobramycin dexamethasone eye ointment 3.5mg	\$3.28[¥22.09]	
Tropicamide phenylephrine eye drops 10ml	\$5.11[¥34.43]	
Povidone iodine solution 100ml	\$1.35[¥9.10]	
Sodium chloride injection (0.9%) 100ml	\$0.29[¥1.97]	

^a Source from the FAI Chinese real-world study

Note. Given that the pre-surgery treatments were single-use, the assumption was made that the costs of pre-surgery concomitant treatments were rounding up to a full vial size.

Supplementary Table S4. Unit cost and frequency of examinations

The unit cost of examinations			The frequency of examinations			
Parameters	Value	Source	FAI implant ^a			LCP ^b
			Cycle 0	Cycle 2/7	Cycle 13/26/52/78-	Per cycle
Outpatient (register)	\$2.78[¥18.77]	Average prices of medical service items ^c	—	1	1	0.50
Inpatient (bed fee)	\$8.25[¥55.61]		1	—	—	—
HbA1c	\$7.28[¥49.04]		1	—	—	—
Blood routine	\$13.19[¥88.92]		1	—	—	0.12
Liver function tests	\$4.00[¥26.97]		1	—	—	0.20
Kidney function tests	\$6.71[¥45.20]		1	—	—	0.20
Four blood transfusion indices	\$20.19[¥136.07]		1	—	—	—
Five coagulation indices	\$16.39[¥110.47]		1	—	—	—
Five electrolyte indices	\$4.48[¥30.22]		1	—	—	—
hs-CRP test	\$5.46[¥36.78]		1	—	—	—
ECG	\$4.08[¥27.48]		1	—	—	—
Computerized blood glucose monitoring	\$1.05[¥7.10]		1	—	—	—
Blood oxygen saturation monitoring	\$0.62[¥4.15]		2	—	—	—
OCT (monocular)	\$22.88[¥154.20]		1	1	1	0.50
OCT (binocular)	\$36.47[¥245.80]		1	1	1	0.50
IOP	\$1.80[¥12.10]		1	1	1	0.45
Slit-lamp examinations	\$0.98[¥6.58]		1	1	1	0.67

Fundus photography (monocular)	\$3.74[¥25.20]		1	1	1	0.40
Fundus photography (binocular)	\$5.34[¥36.00]		1	1	1	0.40
FFA (monocular)	\$22.37[¥150.80]		1	—	1	0.31
FFA (binocular)	\$29.76[¥200.60]		1	—	1	0.31
Routine visual acuity examination	\$0.37[¥2.48]		1	—	—	—
B-ultrasound (eye)	\$6.26[¥42.20]		—	—	—	0.33
BCVA	\$1.63[¥11.00]	Expert surveys ^d	—	1	1	0.50
Dilated fundus examination	\$2.00[¥13.50]	Expert surveys ^d	—	1	1	0.50

^a Source from the FAI Chinese real-world study;

^b Source from expert survey;

^c The average prices of medical service items in five cities: Beijing, Wuhan, Chengdu, Guangzhou, and Zhenjiang;

^d Expert surveys (10 experts from ophthalmology departments of tertiary care institutions in eight regions, including Guangdong, Zhejiang, and Hunan et al., of whom 90% were chief physicians).

Abbreviations: FAI: Fluocinolone Acetonide Intravitreal; LCP: limited current practice; HbA1c: Glycated hemoglobin; hs-CRP test: High-sensitivity C-reactive protein test; ECG: 12-Lead Electrocardiogram; OCT: Optical Coherence Tomography; IOP: Intraocular pressure; FFA: Fundus Fluorescence Angiography; BCVA: Best-Corrected Visual Acuity.

Supplementary Table S5. Unit cost and proportions of drugs in subsequent therapies

Parameters ^a	Value	Source	Proportion of patients ^a
Mycophenolate mofetil tablets 500mg	\$2.02[¥13.65]		16.07%
Methotrexate tablets 2.5mg	\$0.18[¥1.21]		23.21%
Ciclosporin capsules 25mg	\$0.53[¥3.60]		30.36%
Azathioprine tablets 50mg	\$0.16[¥1.07]		8.93%
Prednisone acetate tablets 5mg	\$0.01[¥0.08]		75.00%
Calcium carbonate tablets 300mg	\$0.05[¥0.33]		32.14%
Potassium chloride sustained-release tablets 500mg	\$0.09[¥0.62]		19.64%
Adalimumab solution for injection 40mg	\$153.54[¥1034.86]		7.14%
Folic acid tablets 5mg	\$0.03[¥0.22]		14.29%
Colchicine tablets 0.5mg	\$0.05[¥0.33]		7.14%
Glutathione tablets 100mg	\$0.24[¥1.59]		1.79%
Methylprednisolone tablets 4mg	\$0.08[¥0.56]		1.79%
Prednisolone acetate eye drops 5ml	\$4.27[¥28.77]		60.71%
Atropine sulfate eye gel 2500mg	\$4.70[¥31.69]		12.50%
Fluorometholone eye drops 5ml	\$2.00[¥13.48]		39.29%
Bromfenac sodium eye drops 5ml	\$7.34[¥49.47]	MENET	37.50%
Levofloxacin hydrochloride eye drops 5ml	\$2.67[¥18.00]		1.79%
Carteolol hydrochloride eye drops 5ml	\$2.90[¥19.54]		3.57%
Loteprednol etabonate ophthalmic suspension 5ml	\$10.30[¥69.43]		7.14%
Tobramycin dexamethasone eye ointment 3.5mg	\$3.28[¥22.09]		1.79%
Dextran and hypromellose eye drops 0.4ml	\$0.40[¥2.70]		1.79%
Brinzolamide eye drops 5ml	\$8.95[¥60.32]		1.79%
Tobramycin dexamethasone eye drops 5ml	\$1.44[¥9.71]		1.79%
Pranoprofen eye drops 5ml	\$4.51[¥30.42]		1.79%
Dexamethasone+ Triamcinolone+ Lidocaine	—		8.93%
Dexamethasone sodium phosphate injection 5mg	\$1.09[¥7.33]		—
Triamcinolone acetonide injection 40mg	\$1.11[¥7.48]		—
Lidocaine hydrochloride injection 5ml	\$0.59[¥3.95]		—
Triamcinolone acetonide injection 40mg	\$1.11[¥7.48]		21.43%

^a Source from the FAI Chinese real-world study

Note. When calculating the drug costs in subsequent therapy, the assumption was made that each eye drop was 0.05 ml, and each fingertip eye paste was 0.5 g (2.5 cm).