```
fun_description  THM

⊢  (∀x:A. ∃!y:B(x). P(x,y)) ⇒ (∃f:(x:A→B(x)). ∀x:A. P(x,f(x)))
| by Def of ∃!y:B(x). P(x,y)
|
1. A : Type
2. B : A→Type
3. P : x:A→B(x)→Prop
4. ∀x:A. ∃y:B(x). y is the B(x) s.t. P(x,y)
⊢  ∃f:(x:A→B(x)). ∀x:A. P(x,f(x))
| by FwdThru:
|    Thm*  (∀x:A. ∃y:B(x). Q(x,y))
|          ⇒
|          (∃f:(x:A→B(x)). ∀x:A. Q(x,f(x)))
|
|        dep_ax_choice_version2 onHyps
|    [4]
|
5. ∃f:(x:A→B(x)). ∀x:A. f(x) is the y:B(x). P(x,y)
⊢  ∃f:(x:A→B(x)). ∀x:A. P(x,f(x))  by SimilarTo: Hyp:5
|
5. f : x:A→B(x)
6. x : A
7. f(x) is the y:B(x). P(x,y)
⊢  P(x,f(x))  by Analyze7
END
```