Cartilage palisades vs fascia grafting in tympanoplasty after cholesteatoma surgery - 10-year results

P Cayé-Thomasen, J Andersen, C Uzun, S Hansen and M Tos

From The Department of Oto-Rhino-Laryngology, Head and Neck Surgery,
Gentofte University Hospital of Copenhagen, Denmark

STUDY AIM

* To compare long-term results of cartilage palisades with fascia grafting in tympanoplasty after pediatric cholesteatoma surgery

* **<u>Outcome measures:</u>**
  - cholesteatoma recurrence
  - drum retraction
  - perforation
  - hearing acuity

BACKGROUND

* The palisade cartilage tympanoplasty was introduced by the Heermanns in 1962 and has since been refined.

* Slender, elongated pieces (palisades) are cut from tragal or conchal cartilage, preserving perichondrium on one side.
They are placed parallel to the malleus handle, followed by replacement of the tympanomeatal flap, whereby they provide supporting stiffness to the drum.

MATERIAL & METHODS

* 65 children operated for sinus- or tensa retraction cholesteatoma 1995-2000 (mean age 9)

* 32 had drum reconstruction using palisade cartilages

* 33 had drum reconstruction using fascia grafting

MATERIAL & METHODS

* **Patient chart review**

* **4- and 10-year follow-up examination:**
  - History
  - Otomicroscopy
  - Audiometry
  - (ET function tests)

RESULTS

Follow-up examination

* All but two patients in both groups attended the 10-year follow-up examination (94% follow-up)

* Mean overall follow-up period was 119 months
  - palisade group 115 months
  - fascia group 125 months

Fascia drums 10 years post-op

Palisade drums 10 years post-op

RESULTS

Accumulated pathology during follow-up and at the 10-year examination

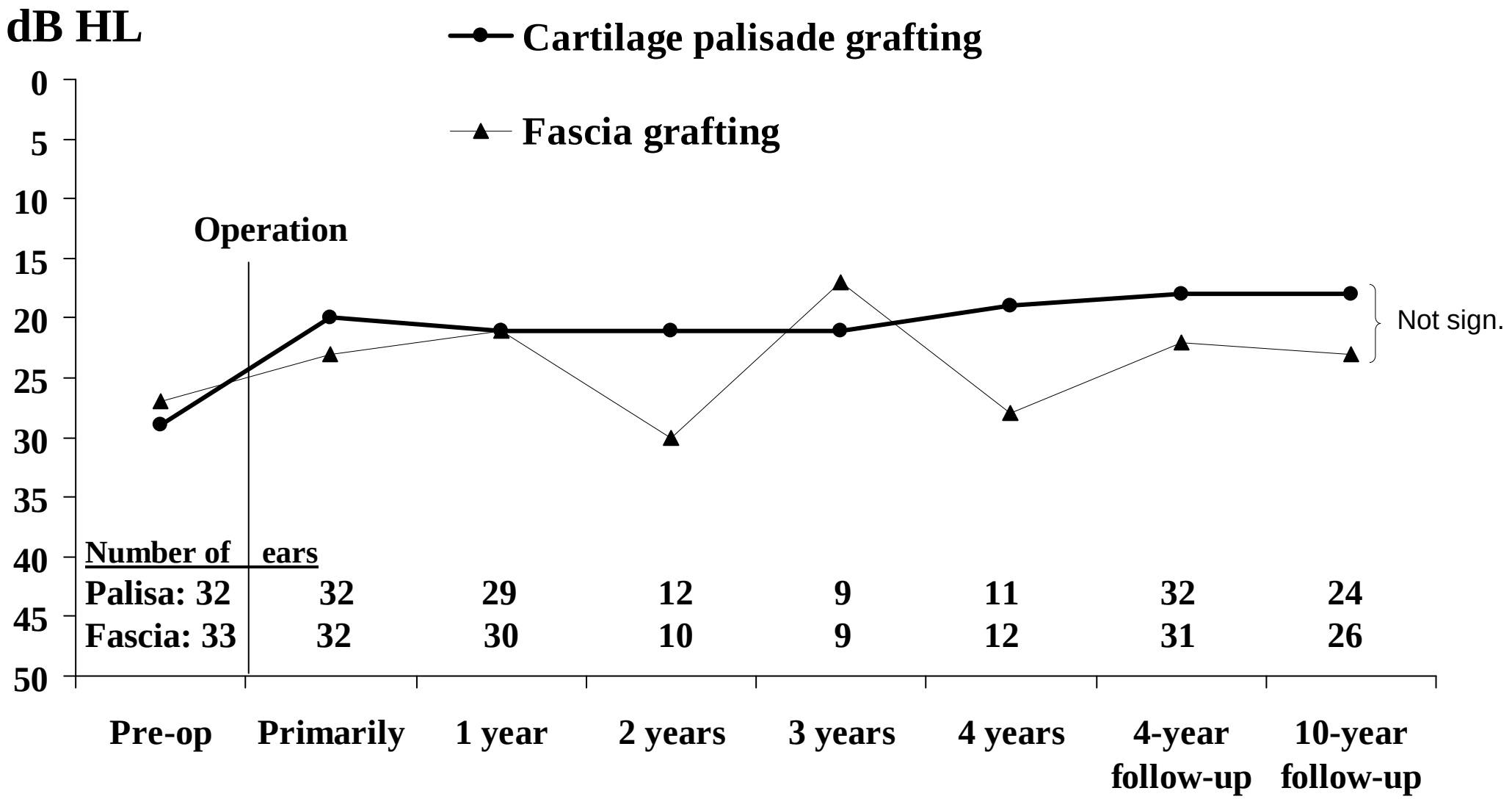
	Fascia	Palisades	P-value
Cholesteatoma	2 (recurrent)	2 (residual)	-
Retraction	14 (42%)	6 (19%)	0.03
Perforation	7 (21%)	4 (13%)	-

RESULTS

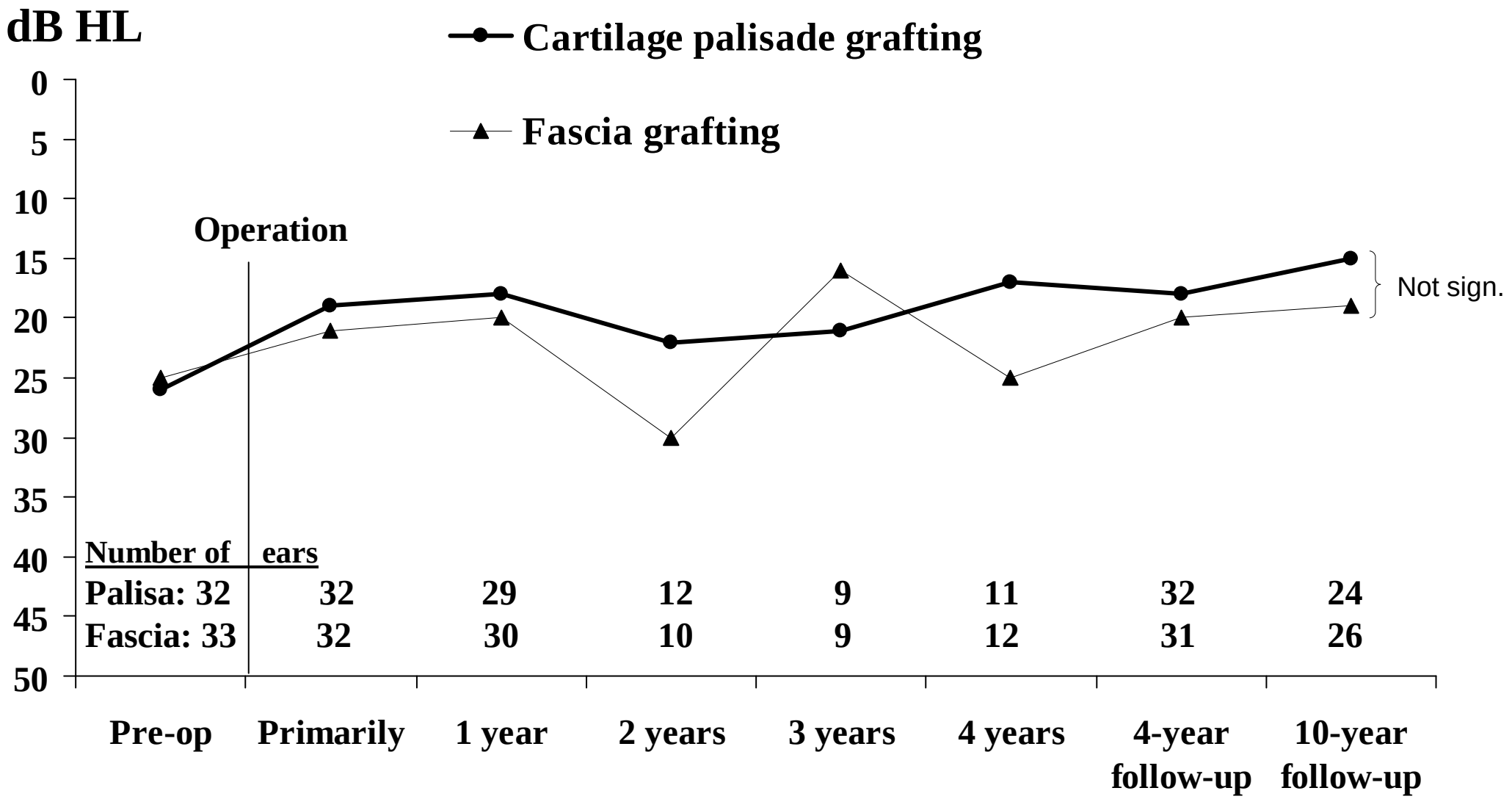
Hearing acuity

- PTA (pure tone average)
- SRT (speech reception threshold)
- ABG (air-bone gap)

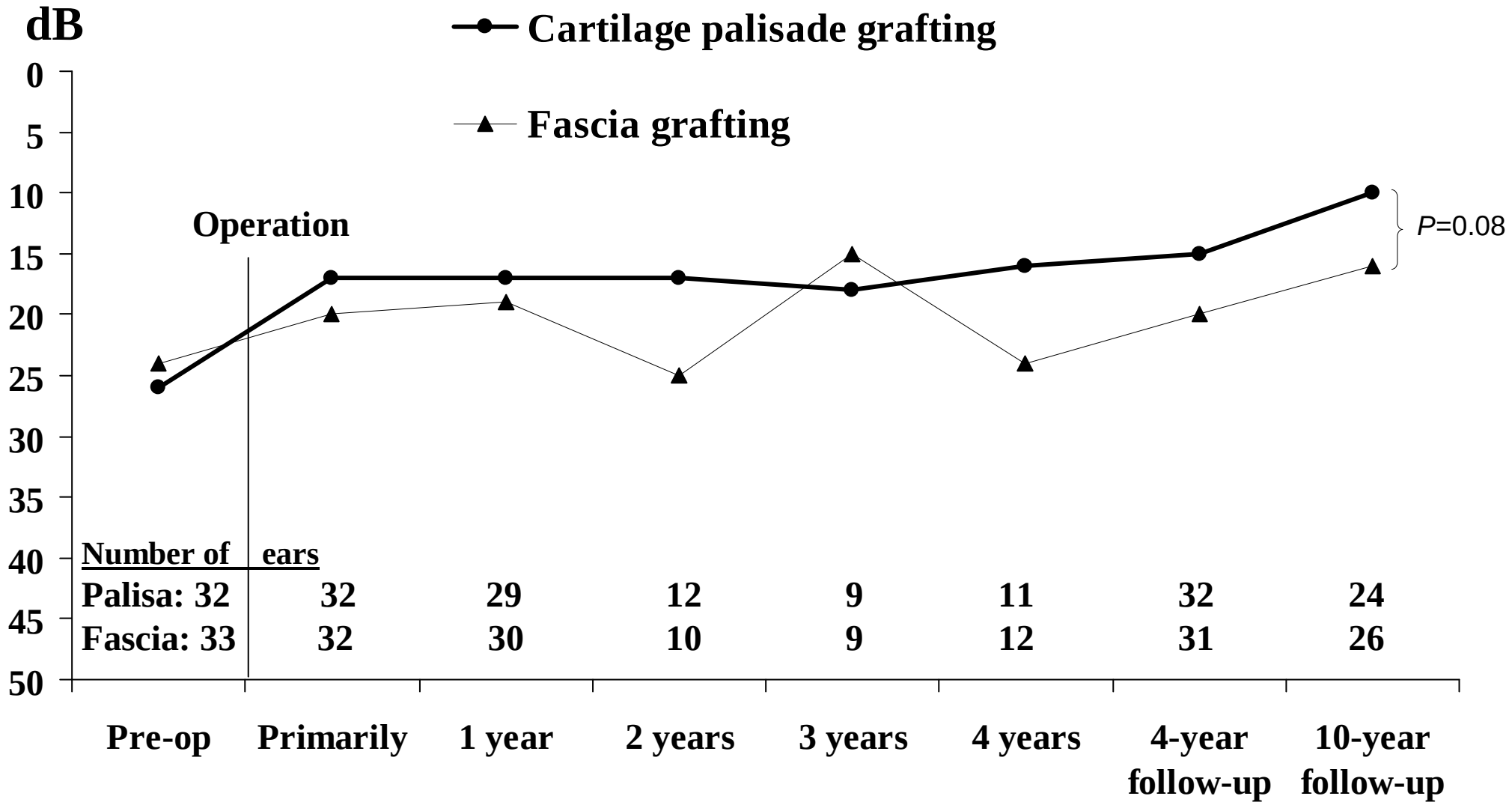
Mean PTA



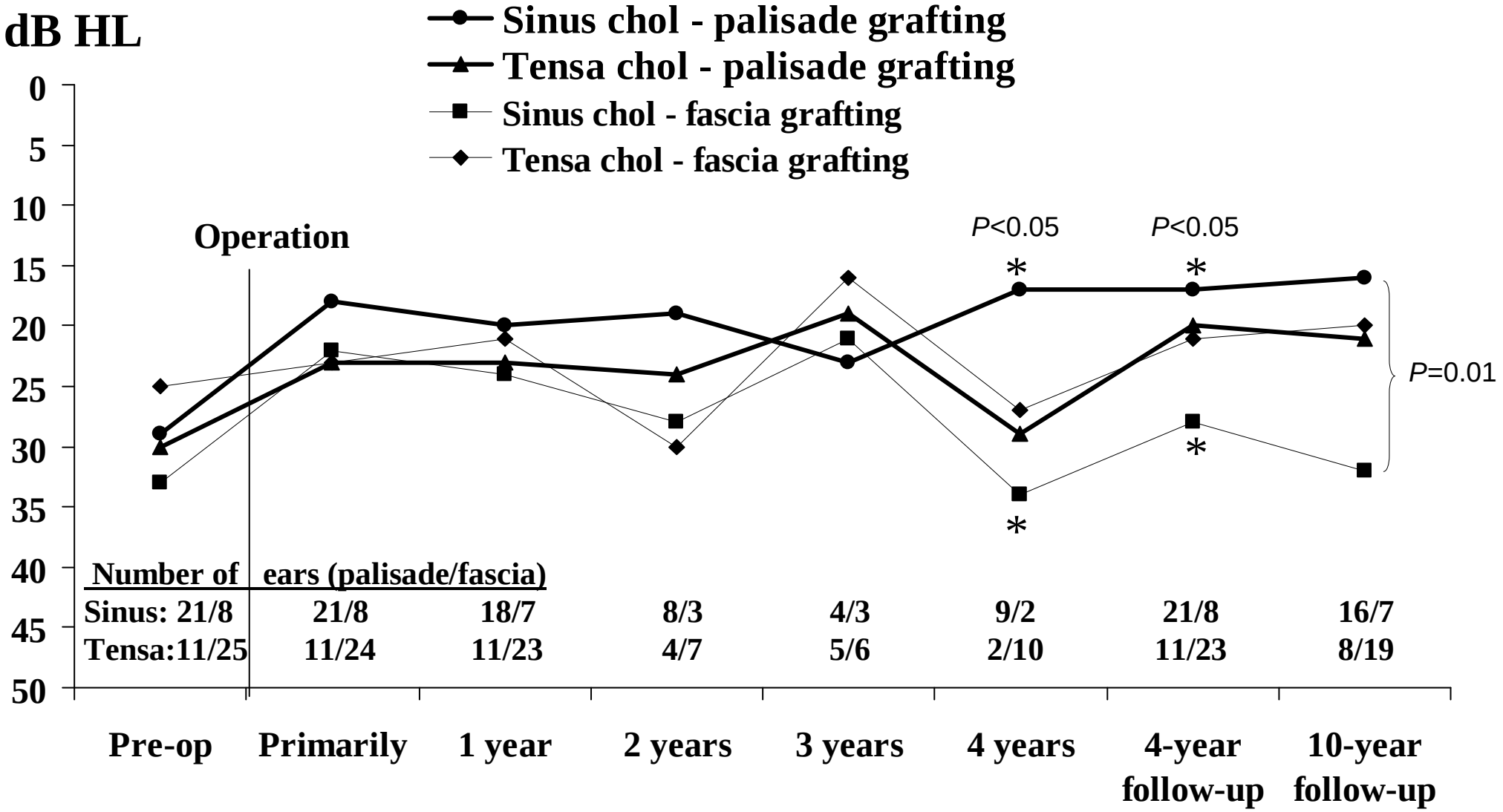
Mean SRT



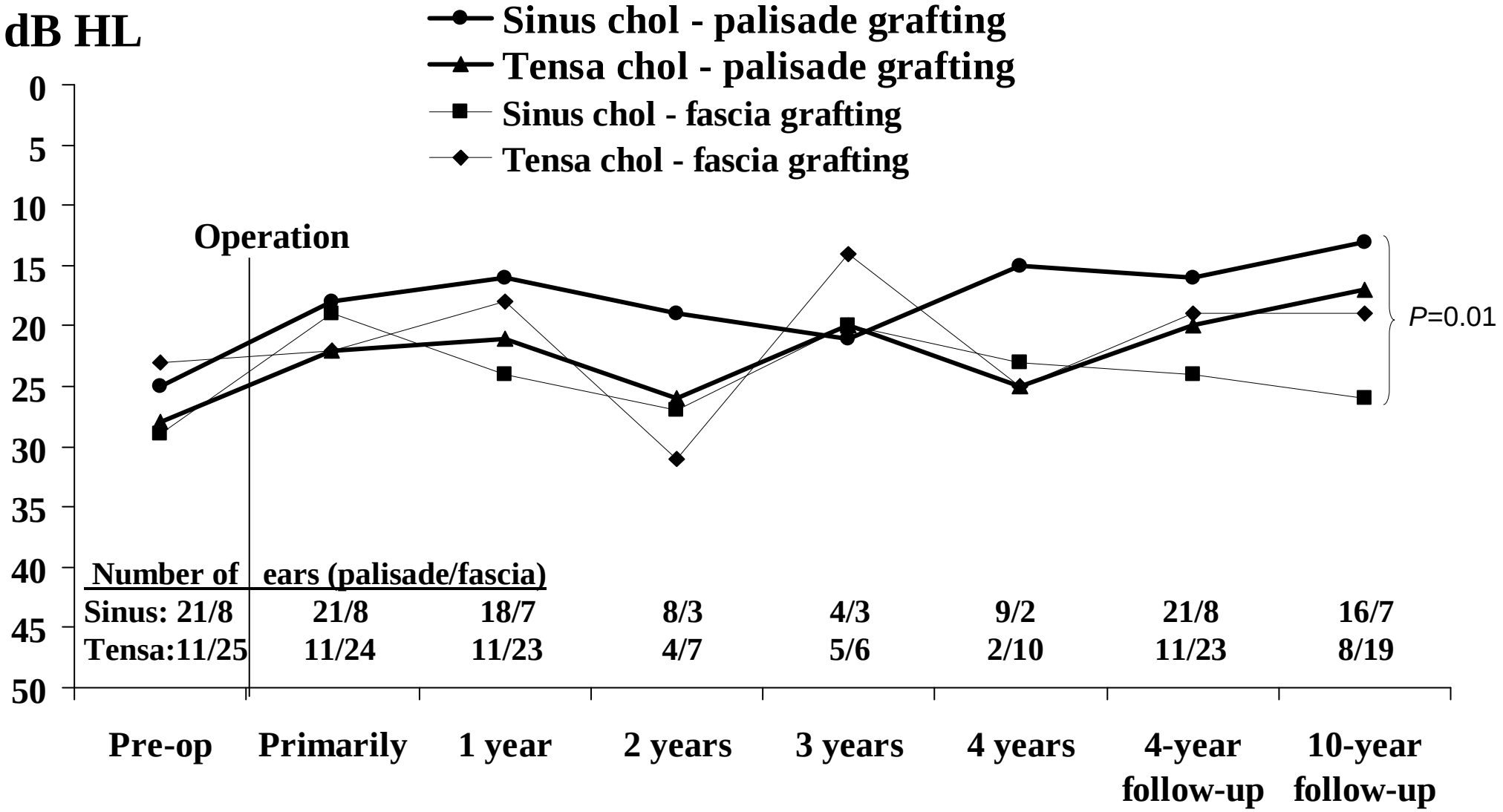
Mean Air-bone gap



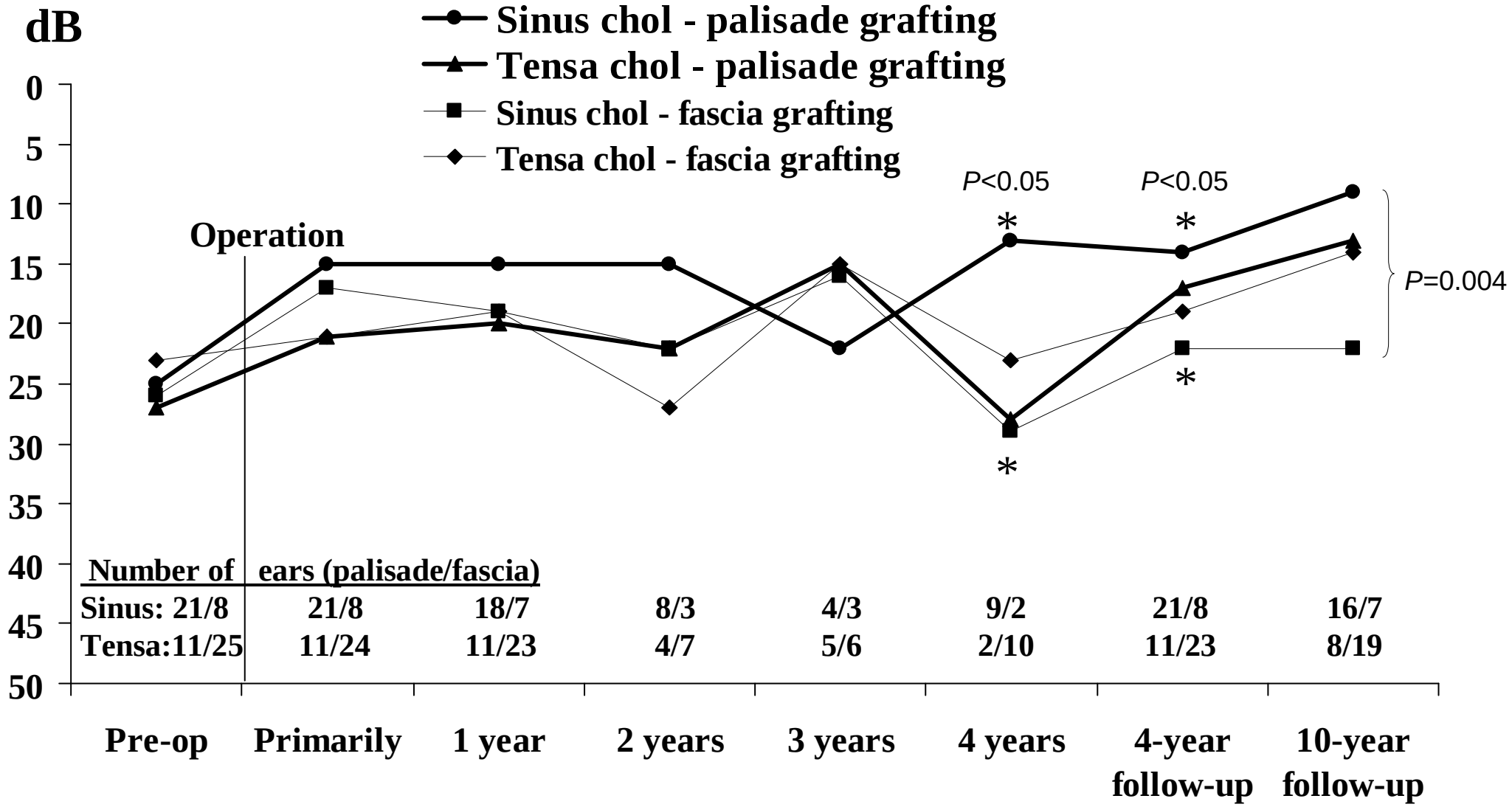
Mean PTA



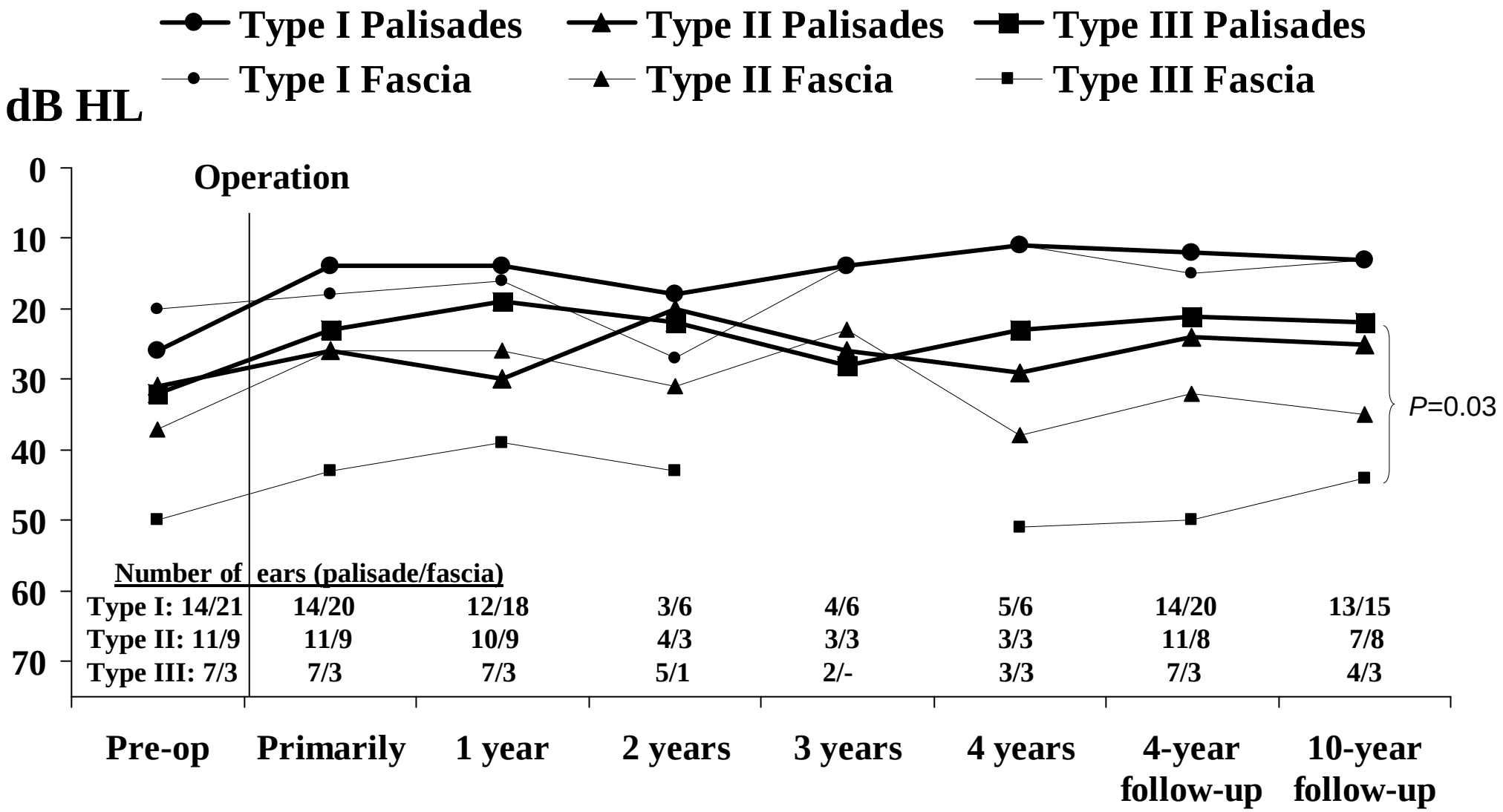
Mean SRT



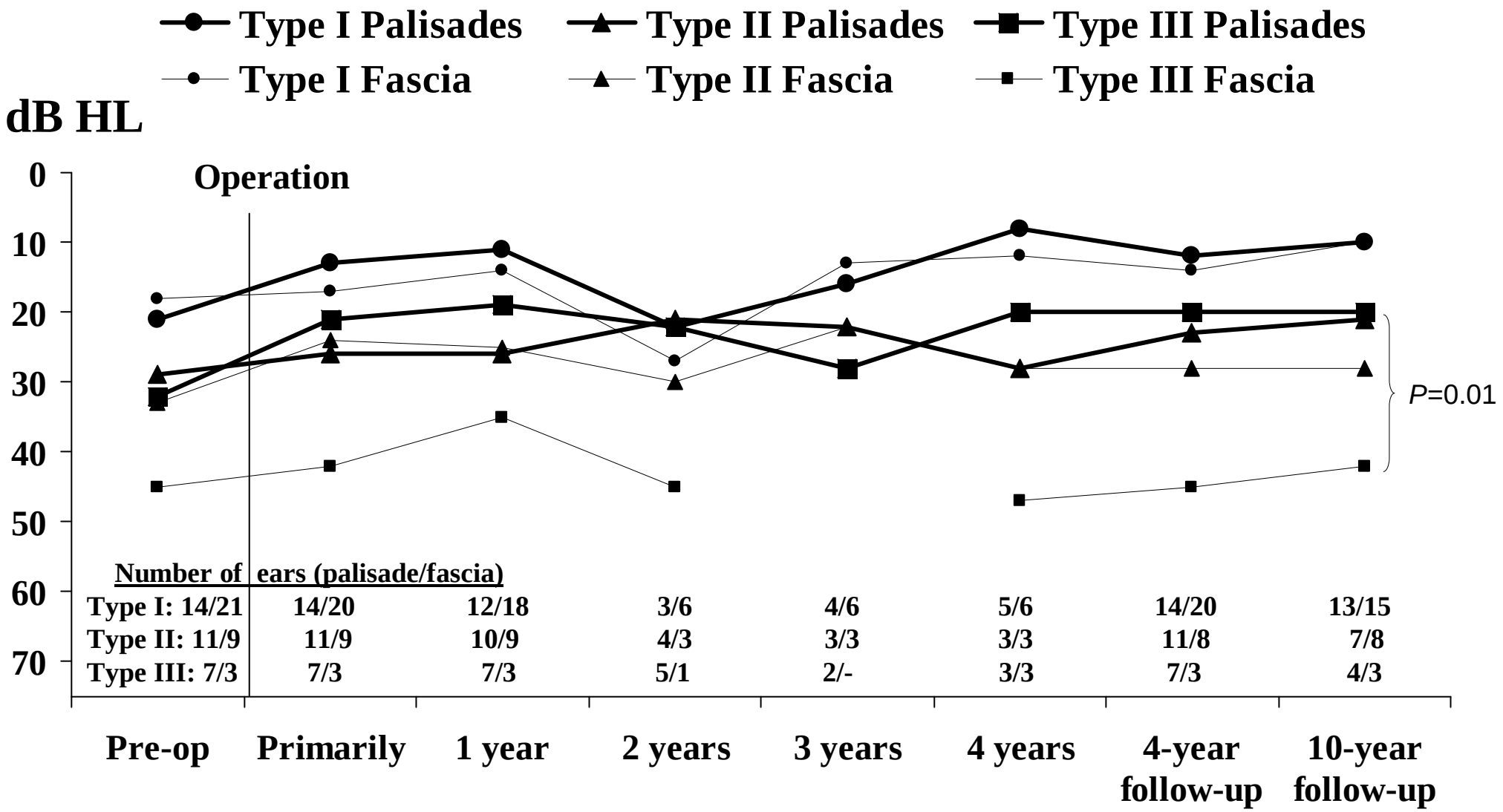
Mean Air-bone gap



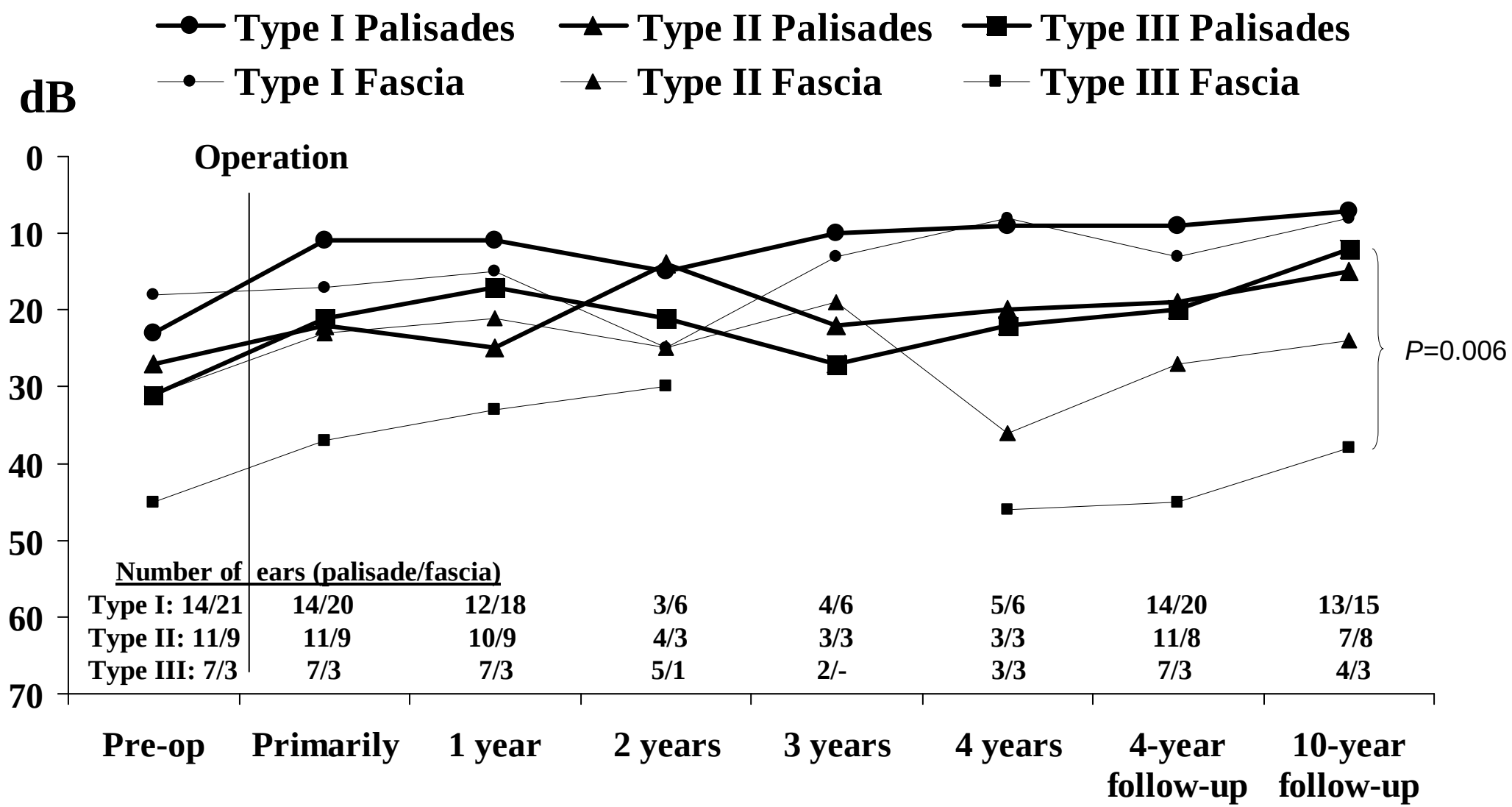
Mean PTA



Mean SRT



Mean Air-bone gap



CONCLUSIONS

* Cartilage palisade grafting is superior with respect to prevention of long-term eardrum retraction.

* Cholesteatoma recurrence and eardrum perforation appears to be independent of grafting material, although these results may be due to type 2 error (low number of ears).

* In sinus cholesteatoma and in type III tympanoplasty, the long-term hearing results are better when grafting cartilage palisades.