

# 디지털카메라의 임상적 응용에 관한 연구

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## Clinical Application of the Digital Camera

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—ABSTRACT—

**Background** : The 35 mm camera has been used in various medical fields. With development of computer technology, digital camera is replacing the 35 mm camera because it has more merits than 35 mm camera. We made the attachable adapter (to digital camera) to use in the medical photography. **Materials** : We use digital camera, adapter attached to digital camera and endoscope. **Result and Discussion** : We take photos of tympanic membrane, nasal cavity, larynx, and oral cavity using digital camera. Use of digital camera greatly enhanced the efficiency of our practice. The advantages and disadvantages of digital camera are discussed. **Conclusion** : The digital camera is now replacing the role of 35 mm camera in the otolaryngologic department as well as other medical field because of it's merits. (J Clinical Otolaryngol 2002;13:118-121)

**KEY WORDS** : Digital camera · Adapter · Photos · Computer.

서론

1839 가 1981 SONY 가 CCD(Charged - coupled device) SVC(Still Video camera) MAVICA 가 .<sup>4)</sup> 1995 CASIO 가 가 35 mm 가 가 .<sup>4)</sup> .<sup>1)</sup> .<sup>2)</sup> 가 35 mm .<sup>2)3)</sup>

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재료 및 방법

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35 mm

4.0

LAN

결 과

Fig. 1

Fig. 2

Table 1

Kodak flash rom media(16 MB)

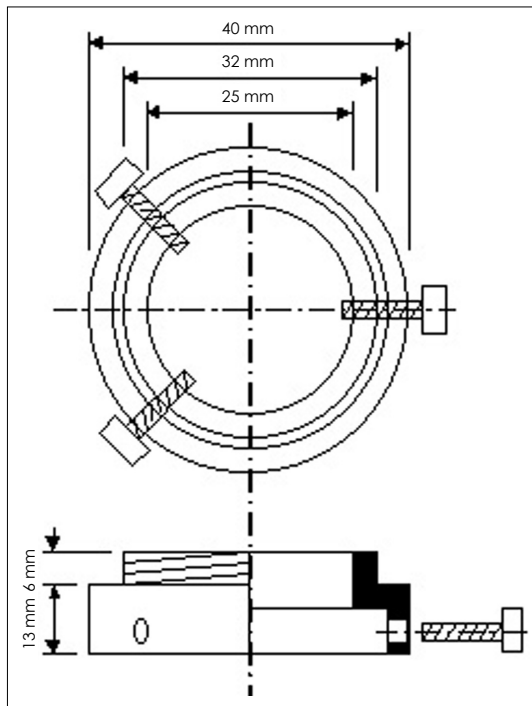
**Table 1.** Characteristics of digital camera for attachable adapter

Characteristics	
Model	Nikon Coolpix 950
Accessory	Adapter that can be attached anterior to lens
Lense	Fixed type
Light source	Used with endoscope (Xenon is preferred)
Others	1) Monitoring when taking photos 2) Flash-off mode selectable

3



**Fig. 2.** Endoscope is attached to digital camera using adapter.



**Fig. 1.** The schematic design of adapter.



**Fig. 3.** Medical photos using adapter. A : Tympanic membrane, B : Nasal cavity, C : Larynx (with hemangioma), D : Oral cavity (granuloma).

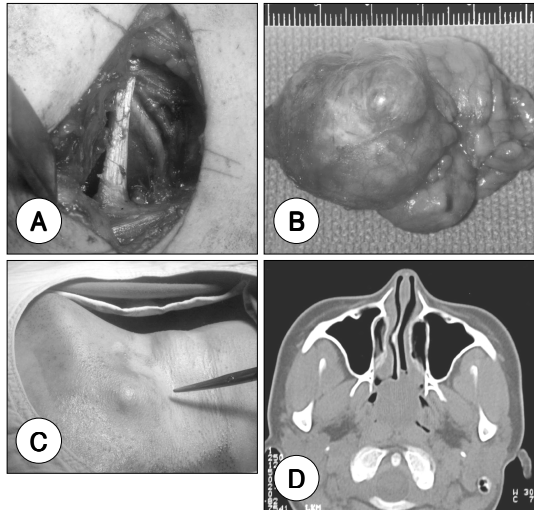


Fig. 4. Medical photos without adapter. A : Submandibular insision, B : Parotid gland (gross specimen), C : Neck mass, D : PNS CT.

Fig. 3

Fig. 4

Photoshop

(cropping)

고 찰

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중심 단어 :  
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 2000  
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**REFERENCES**

- 1) Nist Computer research (online). Available from: <http://nist.co.kr/~garion/gro01.htm>.
- 2) Delange GS, Diana M. 35 mm film vs. digital photography for patient documentation: is it time to change? *Annals of Plastic Surgery* 1999;42 (1):15-20.
- 3) Wirthlin Douglas J, Buradagunta Syam, Edwards Roger A, Brewster David C, Cambria Richard P. *Telemedicine in vascular surgery: Feasibility of digital imaging for remote management of wounds* *Journal of Vascular Surgery* 1998;27 (6):1089-100.
- 4) Knowledge Technology Link (online). Available from: <http://ktlink.co.kr/directory/page/LearnNAccomplish/computer/graphics/digip>.
- 5) Arthur J, Antonio E, John H. *Implementation of a Practical Digital Imaging System for Routine Gross Photography an Autopsy Environment* *Arch Pathol Lab Med* 2000;124:160-5.
- 6) Gillam M, Leung J, Handler J. *Effects of Purchasing a Digital Camera on Residency Education.* *Annals of Emergency Medicine* 2000;36(4):79.
- 7) Kim KB, Jung CY. 전문가가 말하는 디지털카메라 *Photonet* 2001;7:80-7.
- 8) 디지털카메라 현상업 등장. *조선일보* 1999. July. 6.
- 9) Yanagisawa E, Carlson RD. *Videolaryngoscopy and Laryngeal Photography.* Cummings CW, Fredrikson JM, Hacker LA, *Otolaryngology Head & Neck surgery.* 3rd ed. St. Louis Mosby Year Book;1998. p.1868-76.

**결 론**

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