

KQ1. 구개열 환자를 진단하기 위한 적절한 영상검사는 무엇인가?

출처 문헌번호	문헌정보	연구유형	대상자수	연구결과	Study quality (KOIG)	Study quality (original)
최신성 89	Current methods for secondary alveolar bone grafting assessment in cleft lip and palate patients	Systematic review	N/A	1. Currently, 3D X-ray imaging is a standard treatment outcome verification method for SABG. 2. It is necessary to establish the required postoperative follow-up time for best SABG treatment outcome assessment.	2	
최신성 94	CBCT in orthodontics: a systematic review on justification of CBCT in a paediatric population prior to orthodontic treatment	Systematic review	N/A	CBCT is justified only in those cases where conventional radiography fails to provide a correct diagnosis of pathology. (Therefore, it cannot be regarded as a standard method of diagnosis.) CBCT imaging may also be justified when it positively affects treatment options or provides treatment optimization.	2	
최신성 94-24	Cone-beam CT in paediatric dentistry: DIMITRA project position statement	Position statement	N/A	The diagnostic needs for clefts management include the deformity detection as well as the determination of its shape, size and volume. Some other primordial diagnostic features are the monitoring of the development and eruption of adjacent teeth and the analyses of the involvement of the nasal cavity. These data are required to plan surgical procedures (bone graft and orthognathic surgery) and orthodontic approaches. Low-dose protocols should be selected for this proposal considering mainly the possibility to restrict the FOV to the maxillary area.	3	
지침A-Hamada	Application of limited cone beam computed tomography to clinical assessment of alveolar bone grafting: a preliminary report.	Observational	13 patients(17 bone bridges)	In patients with cleft lip and palate, DVT can be used to visualize the size of the alveolar cleft and to evaluate the position and development of multiple teeth, as these patients often suffer from disturbances in tooth eruption.	5	
지침A,B-Mussig	Indications for digital volume tomography in orthodontics.	Review+3 case reports	N/A	The Dental 3D-CT imaging system is suitable for clinical assessment of alveolar bone grafting before and after installation of dental implants or orthodontic treatment of the cleft-adjacent teeth.	3	
지침A-Wörtche	Clinical application of cone beam digital volume tomography in children with cleft lip and palate	Experimental	6 X-ray equipments	The clinical examples show the good applicability of DVT with a reduced radiation dose.(Digital volume tomography allows high-quality three-dimensional imaging of the premaxilla region, with an effective equivalent investigation dose of (110 kV, 5.4 mA) 0.342 mSv based on ICRP recommendations. While the effective equivalent investigation dose for DVT is higher than that for standard imaging techniques (for example digital panoramic radiograph Orthophos Plus DS Ceph (66 kV, 8 mA) 0.016 mSv), it is much lower than that for a normal CT scan (e.g. Picker International Inc., Highland Heights, OH) adjusted at (spiral 130 kV, 125 mA, and 30 mA, 1.5 s) 2.27 mSv. Digital volume tomography provides extensive data important in clinical decision making.)	4	
지침A-Oberoi	Volumetric assessment of secondary alveolar bone grafting using cone beam computed tomography.	Observational	21 consecutive patients	Volume rendering using cone beam computed tomography and Amira software is a reproducible and practical method to assess the preoperative alveolar cleft volume and the adequacy of bone fill postoperatively.(The outcome of alveolar bone grafting was assessed in relation to (1) type of cleft, (2) size of preoperative cleft defect, (3) presence or absence of lateral incisor, (4) root development stage of the maxillary canine on the cleft side, (5) timing, and (6) surgeon. None of these parameters significantly influenced the radiographic outcome of alveolar bone grafting.)	3	
지침A-Korbma	Value of two cone-beam computed tomography systems from an orthodontic point of view	Observational	A total of 68 NewTom and 15 Arcadis Orbic 3D images involving orthodontic indications	The indication for the NewTom images in cleft patients as well as for all Arcadis Orbic 3D images was considered justified. In cleft patients and those undergoing combined orthodontic and maxillofacial therapy, CBCT proved advantageous, providing more information than conventional images.	3	
지침A-Shirota	Analysis of bone volume using computer simulation system for secondary bone graft in alveolar cleft	Observational	13 patients	Significant correlation, with no significant differences between the two in all tests. Measuring and preoperatively calculating the bone volume necessary for bone grafting with surgical simulation software using CB-CT scan data is beneficial.	4	
지침B-36	Three-Dimensional Cone Beam Computerized Tomography in Dentistry	Review	N/A	CBCT has been in use in implant therapy and may be employed in orthodontics for the clinical assessment of bone graft quality following alveolar surgery in patients with cleft lip and palate	4	
지침B-65	Applications of 3-Dimensional Virtual Computerized Tomography Technology in Oral and Maxillofacial Surgery: Current Therapy	Observational	N/A	The precision, accuracy, and 3-dimensional visualization capabilities of these technologies open avenues for the oral and maxillofacial surgeon in the diagnosis, planning, and surgical management of many nonimplant-related cases.	5	
지침B-101	Computer-Aided Maxillofacial Surgery: An Update	Review	N/A	Stereophotography produces 3D facial photographs with natural color and texture, whereas CBCT generates excellent hard-tissue images with a substantially lower radiation than conventional CT scans. Information gathered from CBCT and stereophotography can be used for accurate diagnosis, virtual planning, and simulation of surgery with the aid of specialized software.	4	