Величина отклонения между зрительной и анатомической (оптической) осями может быть определена при помощи аберрометра и выражена в виде показателя отклонения осей (ПОО) ее значение по горизонтали необходимо учитывать при планировании эксимерлазерного лечения аномалий рефракции.

При сагиттальном размере глазного яблока менее 25,0 мм величина ПОО является значимой (0,2 мм и более), вследствие чего необходимо смещать центр зоны воздействия лазерной энергии на зрительную ось с предпочтительным выбором типа хирургической эксимерлазерной операции по данным аберрометрии.

ЛИТЕРАТУРА

1. *Балашевич Л. И.* Рефракционная хирургия. — СПб., 2002. — С. 67—70.

2. *Копаева В. Г. и др.* Глазные болезни. — М.: Медицина, 2002. — С. 84—86.

3. *Кузнецов Ю. В.* // Вестник оптометрии. — 2006. — № 2. — С. 63—67.

4. *Ланцевич А. В.* Заметки оптометриста. — Самара, 2000.

5. *Семенова Н. А.* Технологические возможности отечественной эксимерлазерной установки «Микроскан» в коррекции гиперметропии методом ЛАЗИК: автореф. дис. … канд. мед. наук.— М., 2005. — С.11—13.

6. *Хаппе В.* Справочник практического врача. — М.: МЕДпресс-информ, 2004. — 224 с.

УДК 616.5-006-053.9

ПИЛОМАТРИКОМА У ПОЖИЛЫХ ЛИЦ

Аншу Агарвал, М. Ю. Капитонова, В. В. Ермилов, С. П. Гупало, Шафи Низамани

Технологический университет МАРА, Медицинский факультет (Шах Аллам, Малайзия)

В статье анализируются 4 случая пиломатрикомы, где с помощью морфологических методов исследования были выявлены гистологические особенности опухоли в пожилом возрасте, в частности, наличие амилоидных отложений в опухолевой ткани.

Ключевые слова: пиломатрикома у пожилых, морфология, цитология.

PILOMATRICOMA IN ELDERLY INDIVIDUALS

Anshoo Agarwal, M. Yu. Kapitonova, V. V. Ermilov, S. P. Gupalo, Shafi Nizamani

Universiti Teknologi MARA, Medical Faculty (Shah Alam, Malaysia)

This paper reports 4 cases of patients aged 55, 59, 68 and 70 years of age, diagnosed as cases of pilomatricoma. Careful clinical examination, thorough cytologic and histologic investigation and a high index of suspicion results in an accurate diagnosis, appropriate treatment, and the avoidance of unnecessarily extensive surgery.

Key words: pilomatricoma in elderly, morphology, cytology.

INTRODUCTION

Pilomatricoma, a benign neoplasm of the hair follicle, was initially thought to arise from sebaceous glands and was called calcifying epithelioma of Malherbe, Malherbe epithelioma, pilomatrixoma, trichomatrioma, benign calcifying epithelioma, hair cell tumor, Malherbe tumor, pilomatrix epithelioma, pilomatrix tumor, pilomatrical neoplasm, pilomatrix carcinoma, hair matrix cell tumorigenesis, hair matrix cell tumor. In 1961, after histochemical and electron microscopic analysis of 228 such tumors, Forbis and Helwig [1] found the cell of origin to be the outer root sheath cell of the hair follicle and proposed the name, *pilomatrixoma*, now called *pilomatricoma*.

Pathophysiology. Recent data provide biochemical support of morphological evidence that these tumors are derived from hair matrix cells. Furthermore, investigators have shown that at least 75 % of persons with pilomatrixomas who have examined have mutations in the gene *CTNNB1;* these data directly implicate beta-catenin/LEF misregulation as the major cause of hair matrix cell tumorigenesis in humans [2].

Frequency.Internationally, in one dermatopathology laboratory in the United Kingdom, pilomatrixomas accounted for 1 in 500 histologic specimens. Investigators found 37 cases published in Japanese dental journals between 1977 and 1994. In France, a retrospective study of records in one surgery clinic revealed 33 patients who had undergone surgery for pilomatrixomas between 1989 and 1997 [3, 4].

Mortality/Morbidity.Pilomatrixomas are not associated with mortality. Very large tumors (>18 cm) can cause considerable discomfort but are uncommon. Pilomatrix carcinomas are also uncommon, but they are locally invasive and can cause visceral metastases and death [5, 6, 7].

RaceMost reported cases have occurred in white persons. Whether this represents publication bias or a true racial predisposition is unclear.

Sex. Most studies report a slight preponderance in females. In one retrospective study of 209 cases, the female-to-male ratio was 1.5:1 [8].

Age. Most reported cases have occurred in children. Lesions are often discovered in the first 2 years of life; however, in a recent 1998 retrospective study of 209 cases, investigators found the age of presentation showed a bimodal pattern, with the first peak being 5—15 years and the second being 50—65 years [8].

History. Patients usually present with a solitary nodule that has been slowly growing over several months or years. Patients are usually asymptomatic, but some report pain during episodes of inflammation or ulceration. Rapid growth is rare, but reports indicate one lesion reaching 35 mm in 8 months and another reaching 1 cm in 2 weeks. Occurrence

in more than one member of the same family is rare and is usually observed in association with myotonic dystrophy [9].

Physical. Pilomatricomas also exhibit anatomic regional preferences with the most common sites of occurrence being the head (47 %) (mostly periorbital), the neck (9 %) and upper limbs (35 %). Less common sites include the lower extremities and thorax, with only 2 % appearing in multiple sites. Lesions can also occur on the upper and lower extremities and trunk. Most lesions measure 0,5—3 cm, but, rarely, giant lesions up to 15 cm are reported [8]. Patients usually have a single, firm, stony, hard nodule. Lesions are usually the color of the normal skin, but reddish-purple lesions have been observed (probably resulting from hemorrhage). Stretching of the overlying skin can give the lesion a multifaceted, angulated appearance known as the «tent sign», likely due to calcification in the lesion. One lesion showed the «dimple sign», which is often associated with dermatofibromas. Unusual morphological variants include a keratoacanthomalike appearance, perforating lesions, cystic lesions, bullous appearance, and lesions that show anetodermalike changes on the surface [10].

Histology. Initial histopathologic examination of pilomatricoma shows sharply demarcated dermal nodules surrounded by a capsule of compressed fibrous tissue, located in the dermis and the subcutaneous fat. Closer examination reveals a tumor with lobules of strongly basophilic cells that differentiate into shadow cells, the characteristic hallmark of pilomatricomas [5]. Because differentiation is believed to be from hair follicles, it has been suggested that S-100 protein in shadow cells may be used as a biomarker when diagnosis is unclear [2]. In slightly more detail, it is interesting to note that the histology of pilomatricomas varies by age of the lesion. Overall, pilomatricomas are composed of two major cell types, basophilic cells and eosinophilic shadow cells. However, early lesions tend to have a cyst-like structure with a predominance of basophilic cells grouped in islands and forming the walls of the tumor. A transition period then exists wherein eosinophilic shadow cells form, with loss of their nuclei, leaving pale-staining areas with abundant cytoplasm. These shadow cells form the central portion of established lesions. Ossification and deposition of hemosiderin and melanin occur commonly, whereas amyloid deposition is rare [11]. When fully developed, pilomatricomas no longer show cystic structure and instead become a solid collection of basaloid matrical cells and shadow cells. The matrical cells elicit inflammation and are highly proliferative, with many mitotic figures mimicking malignant invasion. Foreign body giant cell reaction, which represents a granulomatous response to the shadow cells, can also be identified in regions where keratinized debris is abundant. When found in older adults, clinical and microscopic appearance is more likely to mimic that of basal cell carcinoma with matrical differentiation [12].

Diagnosis. Diagnosis of pilomatricoma is suspected on palpation of a superficial hard nodule or papule. Fine-needle aspiration cytology is a preoperative diagnostic tool and allow to raise diagnostic accuracy.

Ultimately, diagnosis is confirmed with histology. A variety of advanced non-invasive techniques are in development to diagnose and assess pilomatricomas. Recent reports have been made with alternate techniques to dermoscopy such as Raman spectroscopy, which has been used to differentiate and grade skin lesions [13]. The advantages of this method include the fact that no pretreatment or staining is necessary and samples are not destroyed. In addition, although not tried in this study, Raman spectroscopy could theoretically be applied in vivo. Other interesting approaches include the use of ultrasound, where pilomatricoma is noted, as a well-defined nodule with inner echogenic foci and a peripheral hypoechoic rim, or a completely echogenic nodule with acoustic shadowing [14]. The benefits of this technique include the ability to diagnose and differentiate without a biopsy.

The differential diagnosis.The differential diagnosis should include epidermoid and dermoid cysts. Epidermoid cysts are firm, round, mobile and have normal overlying skin. Dermoid cysts are similar, but firmly attached to the underlying tissue. Other considerations include basal cell carcinoma, ossifying hematoma, brachial arch remnants, adenopathy, giant cell tumor, foreign body reaction and osteoma cutis.Pilomatricomas may be associated with a variety of internal disease states or genetic syndromes. For example, multiple or recurring pilomatricomas have been associated with myotonic dystrophy, spina bifida, Gardner syndrome, Turner syndrome, Churg Strauss syndrome, and Rubinstein-Taybi syndrome [3, 9, 15, 16, 17, 18]. Thus, when multiple lesions are noted in a patient, further workup should be undertaken to rule out associated diseases or syndromes.

Management and Treatment.The treatment of choice for pilomatricomas is surgical excision [19]. This allows both complete samples for biopsy and confirmation of clinical diagnosis. Less aggressive techniques commonly lead to misdiagnosis [19]. Pilomatricomas are benign and easily treated with rare recurrence. In cases of recurrence, malignancy must be suspected and complete excision must be preformed. Our patient's pilomatricoma was surgically excised without complication and with good cosmetic results. No recurrence was noted on a 3-month follow-up visit.

CASE REPORTS

Case 1: A 55 year old female presented with a slowly enlarging neck swelling of four year duration. Physical examination revealed a cystic mass in the upper portion of neck moving with deglutition.It measured 2 cm in maximum diameter. Clinically diagnosis of thyroglossal cyst was suspected. Laboratory investigations were non-contributory. Subsequently the patient had the mass excised. Histopathologic examination of pilomatricoma showed sharply demarcated dermal nodules surrounded by a capsule of compressed fibrous tissue located in the lower dermis and extending into the subcutaneous fat. The cells in the islands were arranged in a circular configuration, with nucleated basaloid cells on the periphery and enucleated shadow cells in the center.The transitional cells were localized between basaloid cells and shadow cells, and calcification was mostly seen in the ghost cell regions. Histopathology confirmed the diagnosis of Pilomatricoma.

Case 2: A 59 year old male presented with a solitary firm, hard nodule on the left side of neck of 5 months duration. The lesion was 3 cm in diameter with crusts on its surface. Further physical examination and radiologic evaluation did not reveal any significant finding. Clinical diagnosis of skin appendgeal tumor was made. On cytology there were fragments of squamous epithelium and ghost cells (Figure 3). Histologically, there were predominantly basophilic and shadow cells with some areas of calcium deposits. Foreign body giant cell reaction could also be identified in regions where keratinized debris was abundant (Figure 1 & 2). There were deposition of the amorphous,eosinophilic material within the deeper debris and subcutaneous tissues. Supplementary staining by Congo-Red revealed the presence of amyloid. On histopathology diagnosis of Pilomatricoma was made.

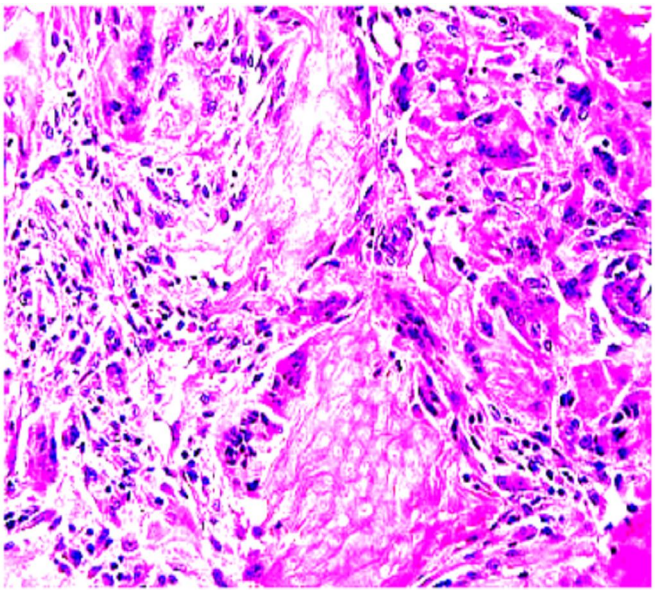

Figure 1. Ghost cells (A), giant cell reaction (B), amyloid deposition (C)

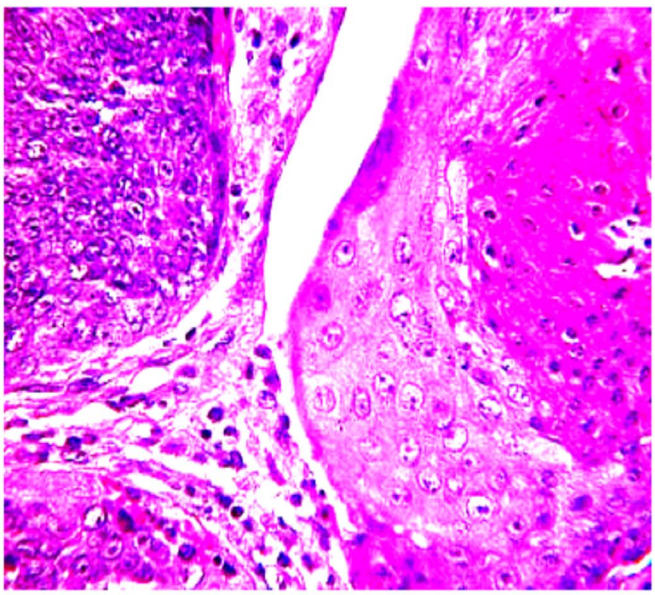

Figure 2. Proliferating basaloid cells, single mitoses including atypical one (arrow), nuclear polymorphism

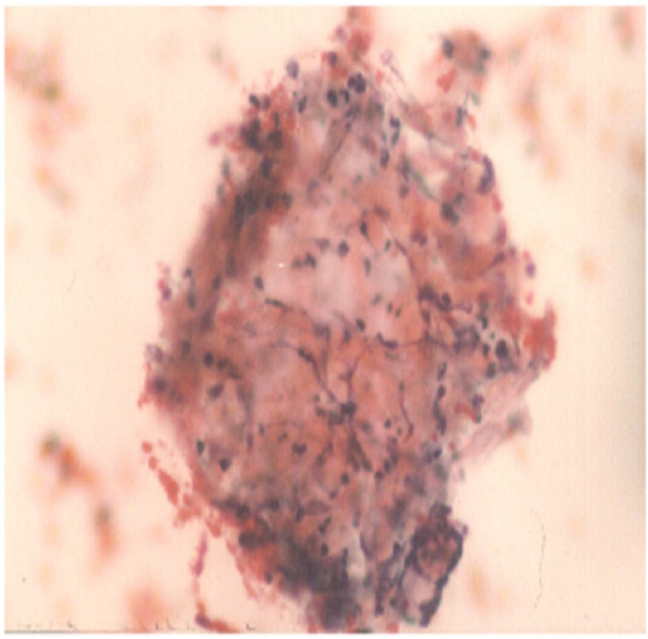

Figure 3. Fragments of quamous epithelium and ghost ells (Papanicolaou stain x 400)

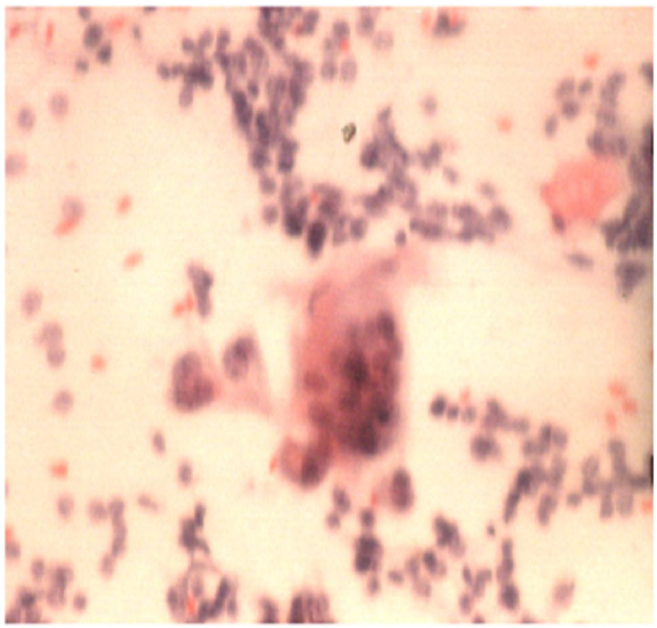

Figure 4. Multinucleated giant cells of foreign body type and loosely dispersed germinativeepithelial cells (Papanicolaou stain x 400)

Case 3: A 68 year old female presented with a lump on his left thigh of three years duration. On examination papillomatous swelling measured 2 x 2 cm, was mobile, hard and non-tender. A clinical diagnosis of papilloma was made and mass was excised. On histopathologic examination, the tumor was composed of calcified well-circumscribed rounded islands, including homogen eosinophilic cells, surrounded by uniformbasaloid cells. The histologic features showed vigorous proliferatation of basaloid cells with abundant mitoses including atypical ones and a degree of nuclear pleomorphism. There were deposition of the amorphous,eosinophilic material within

the deeper debris and subcutaneous tissues supplementary staining by Congo-Red revealed the presence of amyloid. On histopathology diagnosis of Pilomatricoma was made.

Case 4: A 70 year old female presented with a swelling at the nape of the neck of 10 years duration. Clinically diagnosis of neurofibroma was made.

Cytologically, there were multinucleated giant cells of foreign body type and loosely dispersed germinative epithelial cells (Figure 4). The histologic features showed active proliferating basaloid cells with single mitoses including atypical ones and some nuclear pleomorphism (Figure 2). There were deposition of the amorphous, eosinophilic material within the deeper debris and subcutaneous tissues. supplementary staining by Congo-Red revealed the presence of amyloid. Foreign body giant cell reaction could also be identified. On histopathology diagnosis of Pilomatricoma was made. Treatment is wide local excision. Histopathology of the excised mass confirmed the diagnosis of Pilomatricoma.

DISCUSSION

Our study has confirmed the wide range of clinical presentation of pilomatricomas. Although many pilomatricomas resemble an epidermoid cyst, others can mimic a variety of various tumors. Most of the tumors were located on the neck, but only in one case the tumor was situated on the left thigh**.** Literature report suggests that in about 56—72 % cases, pilomatricoma occur in the head and neck region [19]. One of our case diagnosed as a case of pilomatricoma presented with a swelling in the thigh region. Pilomatricomas are uncommon tumor in thigh hence frequently misdiagnosed. Viero et al study done showed presence of Pilomatricoma at unusual locations such as thigh and breast where the clinical diagnosis varied from tumor not otherwise defined to sarcoma [20]. Pilomatricoma is more common in females than males [21]. Our results supports these views,with clear female predominance (3:1). Though it may occur at any age, 60 % cases have been reported to occur in first 2 decades of life (3). Behke et al had reported occurrence of Pilomatricoma in 4 elderly patients [22]. In Kaddu et al study 58 patients out of 118 patients were more than 45 years of age [10]. According to Celia G. Julian MA, BM, BCh and P.W. Bowers FRCP, FRACP Department of Dermatology, Treliske Hospital. Cornwall, United Kingdom there is a second peak in adults between 50 and 65 years of age [8]. Our findings would support these views. Histopathologic examination of pilomatricomas in our cases showed well- demarcated dermal nodules surrounded by compressed fibrous tissue located in the lower dermis and extending into the subcutaneous fat. The cells in the islands were arranged in a circular configuration, with basaloid cells on the periphery and ghost cells in the center. The transitional cells were localized between basaloid cells and shadow cells, and calcification was mostly seen in the ghost cell regions.Foreign body giant cell reaction was observed in Case 2 and Case 4 and amyloid deposition was presented in Case 2, 3, 4 which possibly correspond with the age group. Malignant transformation of pilomatricoma is rare [7] with fewer than 20 cases described in the world literature. These changes tend to occur in middle-aged or elderly patients rather than the young patients [8]. Our case confirmed this view, because our patient (Case 4) was 70 years of age at the time of examination. The histologic evidence showed active proliferating basaloid cells with single mitoses including abnormal ones.Although, according to Aylin Trül, Serap Öztürkcan, M. Turhan S, ahin,Gülay Güçlü, Peyker Türkdog˘ an**,** Antalya, Turkey,mitotic figures can usually be seen and may be frequent [4], atypical ones should raise suspicion ofpossible malignant transformation.The results of our cases show that FNA smears investigation make it possible to arrive at a onclusive diagnosis of pilomatricoma after a careful analysis of all cytological features, even in cases with an uncommon clinical presentation and reveal possible malignant transformation. The finding of a smear with clusters of tightly arranged basaloid cells surrounded by delicate fribrillar material, squamous nucleated, shadow and giant cells, calcium deposits and numerous naked nuclei with inflammatory cells in the background should lead to a diagnosis of pilomatricoma [23, 24]. Naked nuclei with distinct nucleoli mixed with shadow and basaloid cells were reported as the main cause of a false-positive diagnosis of malignancy [23, 24, 25]. A predominance of giant or shadow cells with a few basaloid cells should suggest a cytologic diagnosis of giant cell tumour or epidermal inclusion cyst, respectively. Dissociated small fragile cells with moulding and individual cell necrosis would favour Merkel cell tumour. In basal cell carcinoma, well defined clusters with peripheral palisading and sharp borders are prominent cytological features. None of these tumour show the typical clusters of basaloid cells surrounded by calcium deposits and naked nuclei found in pilomatricoma.

CONCLUSION

Pilomatricoma have a wide variety of clinical characteristics and are often misdiagnosed with other benign and malignant conditions. Clinical differential diagnosis of Pilomatricoma should be considered in solitary firm skin nodules in adults and the elderly also, especially on the head and neck region. Fine-needle aspiration cytology has been described as a preoperative diagnostic investigation. However, the results can be misleading if there are no ghost cells present in the aspirate. The histocytologic presentation had features which allowed a correct diagnosis in all our cases and included basaloid cells surrounded by delicate pink fibres, shadow cells, giant cells, naked nuclei, amyloid and calcium deposits. It is concluded that in pilomatricoma, FNA cytology is characteristic and will allow a conclusive diagnosis even in cases with an aberrant clinical presentation.

REFERENCES

1. *Forbis R., Helwig E. B.* // Arch Dermatol. —1961. — № 83. — P. 606—617.
2. *Kizawa K., Toyoda M., Ito M., et al.* // Br. J Dermatol. — 2005. — № 152 (2). — P. 314—320.
3. *Moehlenbeck F. W.* // Arch Dermatol. — 1973. — № 108. — P. 532—534.
4. Trül A., Serap Öztürkcan, M. Turhan S., et al. // Pilomatricoma. — 2005. — № 133. — P. 1—2.
5. *Cribier B., Worret W. I., Braun-Falco M., et al*. // J. Cutan Pathol. — 2006. — № 33 (1). — P. 1—9.
6. *Green E., Sanusi D., Fowler M.* // J. Am. Acad Dermatol. —1987. — № 17. — P. 264—270.
7. *Veliath A. J.* // Acta Radiologica Oncol. — 1984. — № 23. — P. 429—431.
8. *Celia G. Julian, Bowers P. W.* // J. Am. Acad Dermatol. — 1998. — № 39. — P. 191—195.
9. *Geh J. L., Moss A. L.* // Br. J. Plast Surg. — 1999. — № 52 (2). — P. 143—145.
10. *Kaddu S., Soyer H. P., Hodl S., Kerl H.* // Am. J. Dermatolpathol. — 1996. — № 18 (4). — P. 333—338.
11. *Mathen L. C., Olver J. M., Cree I. A.* // Br J Ophthalmol. — 2000. — № 84 (10). — P. 1203—1204.
12. *Haskell H. D., Haynes H. A., McKee P. H., et al.* // J. Cutan Pathol. — 2005. — № 32 (3). — P. 245—250.
13. *Cheng W. T. , Liu M. T., Liu H. N., et al*. // Microsc Res Tech. — 2005. — № 68 (2). — P. 75—79.
14. *Hwang J. Y., Lee S. W., Lee S. M.* // J. Ultrasound Med. — 2005. — № 24 (10). — P. 1397—1402.
15. *Bayle P., Bazex J., Lamant L., et al*. // J. Eur. Acad. Dermatol Venereol. — 2004. — № 18 (5). — P. 607—610.
16. *Harper P.* // Arch Dermatol. — 1972. — № 106 (1). — P. 41—44.
17. *Pujol R. M., Casanova J. M., Egido R., et al*. // Pediatr Dermatol. — 1995. — № 12 (4). — P. 331—335.
18. *Sano Y., Mihara M., Miyamoto T., et al.* // Acta. Derm. Venereol. — 1990. — № 70 (3). — P. 256—259.
19. *Lemos L. B. , Brauchle R. W.* // Ann Diagn Pathol. — 2004. — № 8 (3). — P. 130—136.
20. *Viero R. M., Tani E., Skoog L.* // Cytopathology. — 1999. — № 10. — P. 263—269.
21. *Solanki P., Ramzy J., Durr N., et al*. // Arch Pathol Lab Med. — 1987. — № 111. — P. 294—297.
22. *Behke N., Schulte K., Ruzicka T., Magahed M.* // Dermatology. — 1998. — № 197 (4). — P. 391— 393.
23. *Kumar N. & Verma K.* // Cytopathol. 1996. — № 7. — P. 125—131.
24. *Woyke S., Olszewski W., Eichelkraut A*. // ActaCytologica. — 1982. — № 26. — P. 189—194.
25. *Wong M. P., Yuen S. T., Collins R. J.* // DiagnCytopathol. — 1994. — № 10. — P. 365—370.

УДК 616.314-089-073.75

ВЫБОР МЕТОДА РЕКОНСТРУКЦИИ АЛЬВЕОЛЯРНОГО ОТРОСТКА ЧЕЛЮСТИ ДЛЯ ИМПЛАНТАЦИИ С ИСПОЛЬЗОВАНИЕМ АНАЛИЗА ОРТОПАНТОМОГРАММ И ТЕЛЕРЕНТГЕНОГРАММ

А. П. Кибкало, С. Б. Фищев, И. Ю. Пчелин, В. В. Бармин, Исхак Назир Ахмед

Кафедра ортопедической стоматологии ВолГМУ,
кафедра стоматологии детского возраста ВолГМУ

Авторы предлагают построение протетической плоскости при концевых дефектах зубных рядов с помощью боковой телерентгенографии и ортопантомографии, получаемой без разобщения прикуса. На основании этого можно решать вопрос о выборе метода реконструкций альвеолярного отростка челюсти для имплантации и степени деформации зубного ряда.

Ключевые слова: ортопантомограмма, боковая телерентгенография, имплантация.

ASELECT METHOD OF THE DENTAL ALVEOLAR PROCESSES RECONSTRUCTION FOR IMPLANTATION BY USING ORTHOPANTOMOGRAPHY AND TELERENTGENOGRAPHY

A. P. Kibkalo, S. B. Phischev, I. Y. Pchelin, V. V. Barmin, Ishaq Nazer

The writers decide to design the protetic surfaces in the ending dental arch defects by helping of the lateral teleroentgenography and orthopantomography and getting it with contact bite. Principally the main solution for this problem it may be by selecting procedures of the dental alveolar processes reconstruction for implantation and the level of the dental arch deformations.

Key words: orthopantomography, lateral teleroentgenography, dental implantation.

Одним из альтернативных методов лечения частичного отсутствия зубов, способствующих полной, в том числе социальной и психологической реабилитации пациентов, является протезирование несъемными конструкциями с использованием имплантатов. Однако полноценная реабилитация больных в сложных клинических ситуациях возможна при тщательном планировании лечения, предполагающем наличие показаний и адекватных условий для проведения имплантации. Если наличие показаний и противопоказаний не опре-