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CASE REPORT

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Norveški pristup procjeni starosti živih osoba s posebnim osvrtom na mlade azilante

Odontological Age Estimation of Living Persons with Special Reference to Young Asylum Seekers: The Norwegian Approach.

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Sažetak
Dob žive osobe definirana je vremenom proteklim od dana rođenja, no ona može biti upitna zbog nekoliko razloga. U Norveškoj to se događa s djecom koja se posvajaju iz inozemstva te s izbjeglicama bez identifikacijskih dokumenata. Osobno je pravo svakoga čovjeka u suvremenom društvu da zna datum svojega rođenja. Azilanti mlađi od 18 godina imaju pravo da ih se smatra djecom ili maloljetnicima, te njima nije tako lako uskratiti pristup ili odbiti azil, pa se tako povećava vjerojatnost da će dobiti prebivalište. Zato se često mladi azilanti predstavljaju mlađima nego što jesu. Posljednjih godina u Norvešku je stiglo nekoliko mladih azilanata koji su tvrdili da su mlađi od 18 godina, ali nisu imali dokumente kojima bi to potvrdili. U godini 2002. oko 900 navodnih maloljetnika stiglo je u Norvešku, a Državna uprava za imigraciju (UDI) htjela je provjeriti njihovu dob biološkim markerima, kako je to ranije učinjeno u Danskoj, Švedskoj i Njemačkoj. Na temelju kontakta sa Stomatološkim fakultetom Sveučilišta u Oslu počeo se provoditi projekt procjene dobi na temelju zuba. Istodobno su napravljene rendgenske snimke šake i zgloba, a procjenu dobi obavila je jedna sveučilišna bolnica u Oslu. Obje institucije dale su UDI-u neovisne izvještaje. Svrha ovoga rada jest, na temelju nekih primjera, opisati tehniku koja se koristi na Stomatološkom fakultetu u Oslu.

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Uvod

Norveški pristup

Mnogobrojni stručnjaci za procjenu dobi koriste se jednom statističkom metodom, a prosječnu dob i standardnu devijaciju uzimaju iz literature. No, takva standardna devijacija vrijedi samo za uzorak na kojem se temelji metoda. Za druge uzorke iste populacije, a posebice za druge populacije ili etničke skupine, ona će biti drugačija. Točan rezultat može biti samo slučajan. Prava dob pojedinca razlikovat će se više ili manje od izračunate dobi zbog varija-

Introduction

The Norwegian approach

Many experts in dental age estimations tend to use one statistical method and find the mean age and standard deviation provided in publications. This standard deviation is however only valid for the sample on which the method is based. For other samples from the same population and certainly for other population or ethnic groups it will be different. Obtaining a correct result only happens by accident. The real age will deviate more or less from

cija, a neki će stručnjaci reći samo raspon u sklopu kojega je točna dob. Taj raspon može biti prihvatljiv, ali u rijetkim slučajevima točna dob će biti izvan njega. Zato nam zadatak treba biti izvještaj bez pogrešnih ili zbunjujućih brojki. To je razlog da pokušavamo reći s koliko sigurnosti možemo tvrditi o pravoj i alternativnoj dobi.

Suprotno ostalima, mi zagovaramo i provodimo više klinički pristup u procjeni starosti. Ukratko, pozovemo osobu kojoj treba odrediti dob, s njom razgovaramo i obavimo klinički pregled. Uzimamo socijalnu i medicinsku anamnezu te pitamo za čimbenike koji bi mogli utjecati, a možda i usporiti, stvaranje zuba. Zatim slijedi klinički pregled koji završava vizualnom procjenom dobi. Rendgenske snimke rade se prema preporukama za odrabranu metodu. Ako je moguće, na više od jednog zuba koriste se najmanje dvije tehnike.

Konačna procjena dobi temelji se na procjeni izračunate i dobivene dobi iz referentnih tablica te dobi dobivene kliničkom procjenom. Procjena se uvijek daje kao okvirna dob u cijelim godinama. Primjer je da neka osoba, prema našem mišljenju, ima oko 20 godina.

Taj se pristup može rabiti za sve slučajeve procjene dentalne dobi. Koji put i starije osobe traže od nas procjenu dobi, navodeći da su u Norveškoj upisani s netočnim datumom rođenja te ga žele ispraviti. Drugi čest slučaj je zahtjev za procjenom dobi posvojene djece.

Isti pristup može se koristiti kada se procjenjuje dob tijela nepoznatog identiteta, iako je nemoguće dobiti pozadinu. U većini identifikacija potrebna je vizualna procjena. Dodatne znanstvene metode koriste se samo ako je dob vrlo važna, kao u rekonstruktivnoj identifikaciji kada policija mora tražiti nestale osobe. Ako nema dentalnih podataka, znanstvena procjena dobi može biti od koristi u identifikaciji.

Praktična primjena u slučajevima izbjeglica

Prije pregleda azilantu se daje mogućnost da ne pristupi testu. Svatko kome se procjenjuje dob potpisuje dokument da prihvaća test. Dodatno dobi-

the age calculated due to individual variation in all populations and some experts therefore often give a range within which the age most likely should be. This approach may be acceptable, but on rare occasions the correct age will be outside the range. It must be an aim that no wrong or misleading figures appear in our reports and conclusions. So instead we try to describe how likely we think the given and the alternative age is.

In contrast to many other experts we advocate and practice a more clinical approach to age estimation. In short, we invite the person who shall have his age estimated for an interview and a clinical examination. We take a social and medical history where we ask about factors which may have influenced and possibly delayed the dental formation. Then we perform the clinical examination which ends in a visual assessment of the age. The radiographs are then taken according to recommendation given for the methods we have chosen to use. If possible at least two techniques are employed on more than one tooth. The final age estimate is based on evaluation of both calculated or derived age from reference tables and the age from clinical assessed age. This estimate is always given as an approximate age and in terms of whole years. An example may be that the person in our opinion is approximately 20 years old.

This approach may be used in all cases of dental age estimation. From time to time we are approached by older individuals who claim that they are registered with incorrect date of birth in Norway and want it corrected. Other times this approach of age estimations is performed on young adopted children.

The same approach may also be used when estimating age of body with unknown identity although the background history will be impossible to obtain. In most identification cases a visual assessment may be given. Additional scientific methods are only used in cases where the age may play a more important part, such as in reconstructive identification cases where the police have to institute a search for possible missing persons. In cases where there are little dental information scientific age estimation methods will be used to support the identification.

Practical application in refugee cases

Before the examination the asylum seeker is given the option of not having this test done. Everyone who attends for age evaluation has signed a doc-

va informacije o tome kako se test provodi te što se očekuje od ispitanika. Svi azilanti koji dolaze u Norvešku odmah dobivaju identifikacijsku karticu s fotografijom i osobnim podacima koje su dali, a njihov se identifikacijski broj daje policiji. Tu karticu moraju pokazati kod dentalne identifikacije.

Za procjenu dobi svatko mora osobno doći na klinički i rendgenski pregled. Uglavnom ljudi dolaze iz posebnih kampova, a prati ih netko od osoblja. Doktor stomatologije obično pregleda pet do 10 osoba na dan.

Provjera identiteta

Kada osoba dođe na pregled, najprije se provjerava identifikacijska kartica, a to se obavlja tako da osoba u pratnji mora potvrditi ime i prezime azilanta. Zatim se provjerava kartica i bilježi navedeni datum rođenja. Ako azilant nije ponio karticu, fotografira se i slika se uključuje u izvještaj. Pregled se obavlja, a identitet provjerava Imigracijska uprava. Pokazalo se da je ta provjera važna, jer se nekoliko puta dogodilo da je mlađi brat došao na pregled umjesto azilanta. Rezultat je u tim slučajevima bio povoljniji.

Socijalna, medicinska i stomatološka anamneza

Pokušavamo dobiti što je moguće točnije podatke o osobi. Na početku je to bilo teško jer azilanti nisu govorili engleski ili neki drugi jezik na kojem bismo mogli komunicirati. Te podatke sada dajemo u izvještaju Imigracijskoj upravi u nazočnosti prevoditelja. Ako možemo razgovarati s osobom, tada se informacije moraju provjeriti ili potvrditi.

Upitnik sadržava pitanja o uvjetima života u domovini. Osobu se pita dolazi li iz bogate ili siromašne obitelji, je li odrasla u gradu ili ne. Također se uzimaju podaci o prehrani te sjeća li se razdoblja gladovanja, ili kada je bilo nedovoljno hrane. Dodatno se bilježe podaci o vodi za piće; je li bila čista te gdje je bio izvor. Dulja razdoblja gladovanja ili nedostatne prehrane mogla bi biti uzrok za zakašnjelu formaciju zuba. Također su uključena pitanja o teškim i dugotrajnim bolestima ili problemima s probavom, jer to može usporiti razvoj zuba.

Pitanja o zubima i stanju usne šupljine također su uključena u upitnik, pa i o tome je li osoba posje-

ument stating that they accept that the test is performed. In addition they have been given an orientation of how the test is performed and what is expected from the person. All asylum seekers who come to Norway are immediately given a photo identity card stating the personal details they have submitted, and their identity number given by the immigration police. This card must be shown at the dental examination.

For age estimation everyone must attend in person for both a clinical and radiographic examination. Generally they come from special reception camps and are accompanied by one person from the staff. The dentist usually will see from 5 to 10 persons per session.

Control of identity

When the person presents him or herself for the examination the identity is first checked. This is done by asking the accompanying person to confirm the name of the person. Then the identity card is controlled and the given date of birth noted. If the asylum seeker has forgotten to bring his ID-card, a Polaroid picture is taken and included with the final written report. The examination is performed in any case and the identity control has then to be performed by the immigration authorities. We found that control of identity was necessary since we suspect that in a few of the early cases the younger brother attended the examination instead of the asylum seeker. The result might then be more favorable.

The past social, medical and dental history

We try to obtain as good and reliable background history as possible. This was in the beginning difficult as few of the asylum seekers spoke English or other language in which we could communicate. This information is now obtained in the first report given to the immigration authorities when an interpreter is present. If we can communicate with the person the obtained information may be verified or supplemented.

The questionnaire include information about the living condition in the home country. He is asked if he comes from a rich or poor family and if he grew up in the countryside or in a city. Information about diet is also obtained and if he can remember periods of starvation or when food was scarce. In addition information about the drinking water, if it was clean and what was the source. Longer periods of hunger or deficient nutrition might be a cause of delayed dental formation. Included are also questions about serious or long lasting diseases or problems with the

tila doktora stomatologije. Dodatno želimo doznati sve o higijeni usne šupljine - od djetinjstva do danas. Stomatološka skrb može promijeniti izgled zuba, a time i vizualno procijenjenu dob. Na kraju su pitanja o pušenju i drugim nepoželjnim navikama koje mogu utjecati na zube i njihovo stanje.

Klinički pregled

Pregled je sličan općem stomatološkom pregledu sondom i zrcalom. Bilježe se abnormalnosti ili bolesti sluznice i kostiju, zatim ekstrahirani i sanirani zubi te oni s jasno vidljivim karijesom. Anatomske devijacije, atricija i boja zuba te povlačenje parodonta također su važni.

Pregled završava kliničkom procjenom dobi. Uočeno je da iskusni doktori stomatologije dobro procjenjuju dob pojedinca samo pogledom na zube, a mi tu procjenu obavljamo naslijepo, odnosno bez gledanja u tablice.

Rendgenski pregled

Rutinski se snimaju ortopantomogram i dvije periapikalne snimke gornjih inciziva zbog metode prema Kvaalu i suradnicima (1). Istraživanja su potvrdila da ti zubi pokazuju najjaču povezanost s dobi. Ako su doživjeli traumu, ili imaju abnormalnu anatomiju, odabiru se drugi zubi. Očita patologija ili abnormalnosti također se bilježe.

Na temelju rendgenskih snimki zubi se procjenjuju prema tablicama. Treći molari su ključni, a rijetko je to drugi molar. Za odrasle, kod kojih je razvoj trećeg molara dovršen, procjenjuju se pulpa i dimenzije jednoga ili dvaju odabranih zuba i na taj način, u skladu s rendgenskim snimkama, određuje se starost (1). Kako bi tehnika dala najpouzdanije rezultate, projekcija mora biti ortoradijalna, a sva mjerenja treba obaviti stereomikroskopom. Alternativno se mogu koristiti digitalne rendgenske snimke, a mjerenja mogu biti u Photoshopu ili nekom sličnom programu. Dodatno se bilježi opće stanje zuba, a posebno pulpne komore drugih zuba, što se uključuje u izvještaj.

digestion. Such diseases might also delay the dental development.

Question about the teeth and dental conditions are also included in the questionnaire. This includes any dental problems and if he has seen a dentist. In addition we want to know about dental hygiene during childhood up to the present day. Dental care may alter the visual appearance of the teeth and consequently the visually assessed age. Finally there are questions on smoking and other habits or abuses which may have affected the teeth and dental conditions.

The clinical examination

The dental examination is similar to a general dental examination using just a mirror and a probe. Abnormality or diseases in the mucosa and underlying jaw bone is noted. Missing, restored and obviously carious teeth are registered. Anatomical deviations, attrition and dental color are noted and periodontal retraction measured

The examination finishes with a clinical assessment of the age. It has been observed that experienced dentists are good in assessing the age of an individual just by looking at the teeth. We try to make use of this expertise instead of blindly relying on the tables.

The radiographic examination

Routinely, we take orthopantomograms and two periapical pictures of the maxillary incisors for the radiographic method of Kvaal et al[1]. Research has shown that these teeth show the strongest correlation with age. If these teeth have been traumatized or have abnormal anatomy we will chose other teeth according to the technique. Obvious pathology or abnormalities observed will be noted.

From the radiographs the development of the teeth will be assessed according to the tables chosen. For the asylum seekers the wisdom tooth will be the key tooth and occasionally the second molar. For adults where the development of the wisdom tooth is completed, the pulp and tooth dimensions of one or two selected teeth are measured and the age calculated according to the radiographic technique[1]. To get the most reliable results with this technique, the projection must be orthoradial and measurements taken under a stereomicroscope. Alternatively, digital radiographs may be used and measurements performed by Photoshop or a similar program. In addition, the general state of the teeth and especially the pulp chamber in other teeth will be noted and taken into consideration.

Izračun dobi

Ako su zubi još u razvoju, dob se očitava s odabrane tablice – obično dviju različitih (2,3). Kod maloljetnih azilanata bez pratnje, kod kojih se može procijeniti samo treći molar, konzultiramo i švedske tablice jer ih smatramo dobrima, a koriste se i različitim vrstama vrijednosti (5). Te tablice daju dobru procjenu do dobi od 20 godina. Ljudi iz Afrike procjenjuju se na temelju južnoafričkih tablica (4).

Ako su svi zubi, uključujući i treće molare, završili s rastom, rendgenska tehnika se koristi kako bi se doznalo koliko je osoba starija od 20 godina. Ta metoda, koju su razvili Kvaal i suradnici godine 1995. godine (1), primjenjuje se duljinom zuba, pulpe i korijena. Dodatno se stereomikroskopom mjere širina pulpe i zuba na tri različita mjesta. Kako godine prolaze odlaganje sekundarnog dentina smanjit će duljinu i širinu pulpe. Ta je metoda manje precizna od one temeljene na zubima u razvoju, a ima i tendenciju da daje previsoku dob za mlađe pojedince. O tome valja voditi računa kada se zaključuje. Morfološka metoda koju je opisao Solheim (6) može pridonijeti procjeni dobi. Taj se način rijetko koristi kod izbjeglica, budući da je glavni čimbenik boja zuba, a ima indikacija da između etničkih skupina postoje razlike.

Procjena za konačno određivanje dobi

Analiziraju se sve informacije koje mogu promijeniti procjenu. Na temelju toga, procijenjena dob može biti povećana ili smanjena.

Već se upozoravalo da su tablice kojima se koristimo netočne zbog etničkih razlika. Dosad postoje indikacije da se kod ljudi iz tropskih zemalja zubi ranije razvijaju (7). No, istraživanja su pokazala da je riječ o mjesecima, a ne o godinama, a taj čimbenik je manje važan s obzirom na individualne varijacije (8). Također postoje pokazatelji da se treći molar ranije razvija kod afričke populacije. No, dob u kojoj je razvoj trećih molara potpuno gotov isti je kod Afrikanaca i Europljana. Taj trenutak u razvoju ključan je u procjeni dobi veće ili manje od 18 godina. Smatramo da se možemo koristiti tablicama za Afrikance, ako se moguće etničke razlike uključe u konačni zaključak.

Tehnika i metode u skladu su s preporukama Međunarodne organizacije za forenzičnu stomatologiju (IOFOS-a), a to se navodi u konačnom nalazu (9).

Calculation of age

If teeth are under development, the age will be looked up in the tables of choice.- usually two different tables [2, 3]. For unaccompanied minor asylum seekers where only the wisdom tooth can be assessed, we also look in tables from a Swedish research which is considered good and which employ different types of scores [5]. These tables usually give a good estimate up to about 20 years of age. For colored persons special tables based on colored in South Africa [4] are employed.

If all teeth including the wisdom teeth are completed, the radiographic technique is used to assess how much older the person may be than 20 years of age. In this method, developed by Kvaal and coworkers in 1995[1], the length of the tooth, the pulp and the root is measured. In addition, widths of the pulp and the tooth at three different levels of the root are measured in a stereomicroscope. Secondary dentin apposition will reduce both the length and the width of the pulp with increasing age. This method is less accurate than tables based on developing teeth and has a tendency to give a result which overestimates age in younger individuals. This must be taken into consideration when the conclusion is made. A morphologic method presented by Solheim [6] may also contribute to the age estimation. This method is rarely used in refugees as tooth color is one major factor and there are indications of ethnic differences.

Assessment for the final age estimate

All the information collected which may modify the estimate will be evaluated. Based on this the age estimate may increase or decrease.

It has been suggested that the tables we use are invalid because of ethnic differences. So far there are indications that people from tropical countries may have an earlier dental development[7]. However, research has shown that this is only a question of months rather than years and assessed against the individual variation this factor may only have minor importance [8]. There are also indications that the wisdom tooth may develop earlier in the black populations. However, the age of completion of tooth development for wisdom teeth is almost the same as for the white populations. This developmental stage is crucial when evaluating the age to be older or younger than 18 years. We are confident that the tables can be relied on for black people if we take possible ethnic differences into consideration in the final conclusion.

Konačna procjena dobi

Na temelju kliničke procjene dobi forenzični stomatolog mora odlučiti jesu li podaci ili rezultati statističkih izračuna dovoljno uvjerljivi da promijene kliničku procjenu starosti. Konačna odluka daje se u cijelim godinama, na primjer 16, 17, 18, 19 ili 20 godina. Statističke metode su manje točne u dobi iznad 20 godina, pa se ta dob određuje u intervalima od 5 godina, tj. oko 20, 25, 30 ili 35 godina.

Uobičajeno je da izražavamo procjenu dobi umjesto raspona, uz napomenu da je stvarna dob rijetko izvan njega. U takvim slučajevima će i zaključak o rasponu biti pogrešan. Dodatno, točan broj pokazao se boljim u statističkoj analizi od intervala.

Zaključak

Zaključak općenito odgovara na sljedeća pitanja:

1. Koja je dob koju je procijenio stručnjak?
2. Koliko je vjerojatno da je navedena dob službena?
3. Koliko je vjerojatno da je dob neka druga?
4. Koja od tih dobi je najvjerojatnije točna?

Obično osoba ima službeni datum rođenja te dob u kojoj se obavi pregled. Ponekad ona sama, a nekad i administracija, želi promijeniti datum rođenja iz različitih razloga te tada navodi alternativnu dob. Nakon procjene dobi zadatak je stručnjaka ocijeniti može li se službeni ili alternativni datum rođenja odbaciti i, ako ne, koji je najvjerojatnije točan.

Za azilante iz UDI-a odgovorili smo na sljedeća pitanja:

1. Kolika je stručnjakova procjena dobi?
2. Koja je vjerojatnost da osoba ima 18 ili manje godina?
3. Koja je vjerojatnost za procijenjenu dob?

Općenito, ako procijenimo da azilant ima dvadesetak godina, nećemo isključiti da je mlađi od 18, ali ćemo smatrati da je to razmjerno nemoguće. Također ćemo isključiti da ima manje od 17 godina. Ako je procijenjena dob oko 25 godina, također ćemo isključiti da ima manje od 18.

The technique and the methods used are basically in agreement with recommendation from IOFOS (International Organisation for Forensic Odonto-Stomatology) [9] and this is also stated in the final report.

The final estimate of the age

Based on the clinical assessment of the age, the forensic odontologist must now decide if the information acquired or the results from the statistical calculations are so convincing that it is a cause for change in the clinical assessment of the person's estimated age. The final conclusion is given as approximate of whole years eg. 16, 17, 18, 19 or 20 years of age. For older than 20 years where the statistical methods are less accurate, the conclusion is given in 5-year intervals eg. approximately 20, 25, 30 or 35 years.

We prefer to use an estimated age in stead of an age range taking into consideration that the real age may in rare instances be outside this range. In such case a conclusion giving a range will be wrong. In addition exact figures lend itself better to statistical analysis than intervals.

Conclusions

In general, in the conclusions we will answer the following questions:

1. What is the expert's age-estimate?
2. How likely is the official given age?
3. How likely is the alternative age?
4. Which of these ages are most likely to be correct?

Usually the person has an official given date of birth and consequently an age when the examination is performed. Sometimes the person himself or the authorities want the date of birth to be changed for various reasons. The person or the authorities usually then present an alternative age. After having estimated the age it is the task of the expert to assess if the given or the alternative date of birth can be excluded and, if not, which is most likely to be correct.

For the asylum seeker from UDI we have agreed to answer the following questions:

1. Approximately how old is the expert's estimate of the age?
2. What is the likelihood that the person is younger or older than 18 years of age?
3. What is the likelihood of the given age?

Generally, if an asylum seeker is estimated to be approximately 20 years of age we will not exclude

Azilanti trebaju navesti datum rođenja kada dolaze u Norvešku, s dokumentacijom, ili bez nje. Ako nemaju dokumente, policija i UDI mogu postavljati pitanja o dobi, posebice ako azilant navede da ima manje od 18 godina. Zato ćemo procijeniti može li se navedena dob isključiti te kolika je vjerojatnost da je to točno. Naše je mišljenje da rijetko griješimo u tvrdnji da je osoba tri ili više godina mlađa od stvarne dobi. Također je moguće da je osoba tri godine starija od stvarne dobi. Većina poremećaja u dentalnom razvoju kao posljedicu ima zakašnjeli razvoj, a samo posebni hormonalni poremećaji mogu ubrzati dentalni razvoj.

Pouzdanost

Kao dio provjere pouzdanosti, drugi će forenzičar pročitati i potpisati izvještaj. Također može komentirati napisano te se složiti s navedenim. To se radi kako bi se povećala mogućnost da se otkrije pogreška te kako bi se u sličnim slučajevima donosili slični zaključci.

Pismeni izvještaj

Pismeni izvještaj sastavlja se prema preporukama IOFOS-a (9). Da se olakša rad i osigura uniformnost, tiskani su obrasci za različite spolne i dobne skupine.

Uglavnom pratimo načela navedena u tom članku. Navodi se tko je dodijelio zadatak te pozadina pregleda. Kontrola identiteta, te osoba u pratnji iz azilantskog kampa također su navedeni u izvještaju. Slučaj, nalazi te klinički i rendgenski preged, uključujući i procjenu dobi te izračun dobi, također su navedeni u izvještaju. Na kraju se o rezultatima raspravlja te se daju zaključci. Izvještaj potpisuju dva forenzična stomatologa, a tekst završava kratkim opisom kvalifikacija obaju stručnjaka.

that he is below 18 years, but we will find this relatively unlikely. However, we will exclude that he could be below 17 years of age. If the age is estimated to be approximately 25 years, we will also exclude that he could be younger than 18 years of age.

Asylum seekers have to state a date of birth when they come to Norway whether documented or not. Without documentations, the police and the UDI may have reasons to question the age, especially if they give an age below 18 years. We will therefore also assess if the given age can be excluded and if not how likely it is that this age is correct. It is our opinion that we will make mistakes extremely rarely so that the person is more than 3 years younger than the estimated age. The opposite where he may be 3 years older than the estimated age may well be the case. Most disturbances in dental formation result in delayed development. Only special hormonal disturbances may give a significantly more rapid dental development.

Quality assurance

As part of the quality assurance procedure another forensic odontologist will read and counter sign the report. He may give comments to the report and must agree fully with the conclusion. This is done to increase the possibility of detecting mistakes and to make similar conclusion in similar cases.

The written report

The written report will be set up according to the recommendations of the International Organisation for Forensic Odonto-Stomatology [9]. To facilitate the work and to secure uniformity of the reports, templates have been set up for the different age and sex groups.

In general, we follow the procedure described in this article. It is stated who has given the assignment and the background for the examination. Where the person comes from and his given age is registered. Control of identity and who is accompanying the person from the asylum camps will be given in the report. The case history, the findings at the clinical and radiographic examination, inclusive age assessment and age calculations are stated. Finally, the results are discussed and conclusions given. The report is signed by two forensic odontologists and the report ends with a short description of the qualification of the two experts.

Primjeri azilanata

1. slučaj

Afrikanac iz Somalije navodi da ima 16 godina (Slika 1.). Vizualna procjena forenzičnog stomatologa tijekom pregleda bila je 15 godina. Razvoj trećih molara upućivao je, prema Haavikkovim (2) tablicama, da bi mogao imati 16,5 godina, a prema Kullmanovim (5) -16. Tablice Harrisa i Nortjea (4) za Afrikance i Azijce upućivale su na 17 godina.

Konačna procjena bila je 16 godina, što je bilo u skladu s navedenom dobi.

2. slučaj

Pakistanac navodi da ima 17 godina i 9 mjeseci (Slika 2.). Klinička procjena forenzičnog stomatologa jest da bi mogao biti u dobi oko 25 godina. Rendgenske snimke otkrile su kompletno razvijene treće molare sa zatvorenim apeksima korijenova. To je upućivalo na to da je stariji od 20,4 godina prema Haavikkovim tablicama te stariji od 19,2 godine prema Kullmanovima. Pulpa je na nizu zuba bila smanjena. Kalkulacije prema rendgenskoj tehnici (1) pokazale su 31 godinu za zub 21.

Konačna procjena bila je da je stvarna dob oko 25 godina. Moglo se isključiti da je mlađi od 18 godina te da je navedena dob točna.

Naravno da smo svjesni kako postoji statistička varijacija metoda i tablica kojima se koristimo. To je također istaknuto u kliničkom radu iz Norveške (10). Naša konačna procjena trebala bi biti sinteza socijalne i medicinske anamneze, kliničkog nalaza, procjene dobi i dobi izračunate statističkim metodama te pomoću tablica. Liverstidge (11) je objavio novu tablicu koja uključuje afričku djecu i djecu iz Bangladeša te bi se ona mogla koristiti u budućnosti. Iako naše konačne procjene nisu točne, smatramo da su najbolje i najispravnije za pojedinca. Budući da ne znamo standardnu devijaciju i interval pouzdanosti za populaciju, bilo kakav pokušaj da damo podatke bio bi pogrešan i navodio bi na krivi trag. To je nadomješteno našom procjenom vjerojatnosti za navedenu i alternativnu dob.

Examples from asylum seekers

Case 1

A negroid man from Somalia presented with a given age of 16 yrs (Fig. 1). The visual assessment of the forensic odontologist during examination was approximately 15 yrs. The development of the wisdom teeth indicated according to the tables of Haavikko [2] that he could be 16.5 yrs and according to the tables of Kullman[5] that he could be 16.0 yrs. The tables of Harris and Nortje[4] for coloured people indicated 17.0 yrs.

The final estimate was that he was approximately 16 yrs and this corresponded well with the given age.

Case 2

A man from Pakistan had a given age of 17 yrs and 9 months (Fig. 2). The clinical assessment by the forensic odontologist was that he could be approximately 25 yrs of age. Radiographs showed that the formation of all wisdom teeth was completed and the root apices closed. This indicated an age older than 20.4 yrs for the tables of Haavikko and older than 19.2 yrs according to the tables of Kullman. The pulp was reduced in size in a number of teeth. Calculations according to the radiographic technique[1] showed 31 yrs for tooth 21.

The final estimate was that he was approximately 25 yrs. It could be excluded both that he was younger than 18 yrs of age and that the given age was correct. .

We are of course aware of the statistical variation in the methods and tables we use. This has also been pointed out in a critical article from Norway [10]. Our final estimate is meant to be a synthesis of social and medical history, clinical findings, assessment of age and age calculated from statistical methods and tables. For the age calculation new table including black and Bangladeshi children has recently been published by Liversidge[11] may be used in the future. Even though our final estimates are not exact, we hold that they are the best and most correct we can give for the individual. As we do not know the standard deviation or confidence interval for the population in question, any attempt to give figures for these would be wrong and misleading. These are substituted with our assessment of the likelihood for the given and alternative ages.

Slika 1. Somalac s navedenom dobi od 16 godina
Figure 1 Man from Somalia with given age of 16 yrs.

Slika 2. Pakistanac s navedenom dobi od 17 godina i 9 mjeseci
Figure 2 Man from Pakistan with a given age of 17 yrs and 9 months

Abstract
The age of a living person which is defined as the time elapsed since the date of birth may sometimes be queried for various reasons. In Norway, this may happen with children adopted from abroad and refugees who arrived without identification papers. It is the civil rights of a person in a modern society to have a correct date of birth. Unaccompanied asylum seekers under the age of 18 years have the right to be treated as children or minors. He cannot so easily be denied access nor returned and the likelihood of a permanent permission to stay increases. It is therefore tempting for young asylum seekers to pretend to be younger than they really are. In the latter years several young asylum seekers have arrived in Norway claiming to be younger than 18 years of age, but cannot produce official papers to verify this. In the year 2002 approximately 900 people claiming to be minors arrived in Norway and the Norwegian Directorate of Immigration (UDI) wanted to have the age verified from biological markers as were already done in Denmark, Sweden and Germany. Contact was established with the Faculty of Dentistry at the University of Oslo and a project for estimation the age based on teeth started. At the same time initiation was made to take radiographs of the hand and wrist bones and have age assessments from these performed at one of the university hospitals in Oslo. Independent reports were submitted to UDI from both institutions. The aim of this paper is to show the technique we use at the Faculty of Dentistry in Oslo including some examples.

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