

In Defense of Circumcision

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In this issue of *IMAJ* Naimer [1] presents the case of an apparently healthy newborn infant who underwent ritual circumcision that was complicated by excessive bleeding which led to the infant being taken to the operating room for exploration and suturing of the bleeding site. The next day the head of the hospital's plastic surgery department explained to the parents that there was harm done to the infant's penis, necessitating a full-thickness skin graft to repair the damage. In reviewing the pictures, Naimer maintained that the whole procedure was superfluous as the penis was perfectly normal after the ritual circumcision. Since we do not have intimate knowledge of the medical details, we are not in a position to discuss the particulars of this case but it gives us an opportunity to address some controversial issues related to circumcision.

HISTORICAL PERSPECTIVE

With the possible exception of trephining, circumcision is probably the oldest operation known to humankind. There are 6000 year old mummies that show evidence of having been circumcised, and Egyptian drawings [Figure] almost as old depict circumcision being performed with stone knives [2]. Circumcision, known as *brit milah* in Hebrew, is mandated by the Bible for Jewish males and in the Koran for Muslim males. An indication of its religious significance is that if

a Jewish male dies uncircumcised, even an infant who has not reached day 8, his body is circumcised before burial.

Although the primary motivation for Jewish circumcision has always been religious rather than medical, Jews have been aware that there may be medical implications. For example, Moses Maimonides, the famed medieval Jewish rabbi, physician and philosopher, postulated [3]:

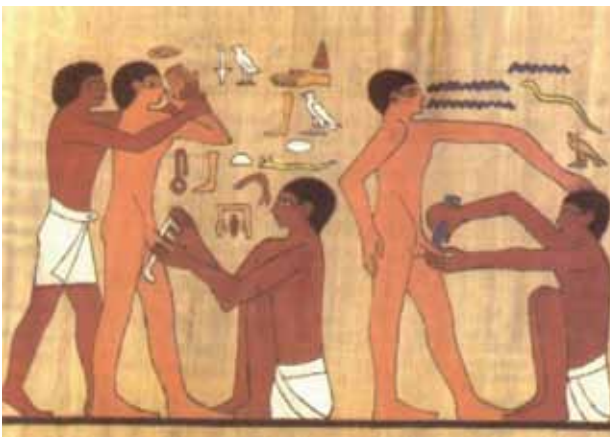
Similarly with regard to circumcision, one of the reasons for it is, in my opinion, the wish to bring about a decrease in sexual intercourse and a weakening of the organ in question, so that this activity be diminished and the organ be in as quiet a state as possible... None of the activities necessary for the preservation of the individual is harmed thereby, nor is procreation rendered impossible, but violent concupiscence and lust that goes beyond what is needed are diminished. The fact that circumcision weakens the faculty of sexual excitement and sometimes

perhaps diminishes the pleasure is indubitable.

It is interesting that some opponents of circumcision still believe in this medieval myth.

Antiochus (IV) Epiphanes, the Syrian-Greek occupier of the Land of Israel in the second century BCE, outlawed circumcision on penalty of death (1 Maccabees, 1: 60-61), as did Hadrian, the Roman emperor in the second century CE, and the Soviet Union in the 20th century.

The first major attack on circumcision in the modern era took place in the German states during the period 1843–1857. It was known as the *Circumcision-fragen* and centered on the supposed risks the rite posed to society's health [4]. Influenced by the medical community's criticism of circumcision, some of the German states began dictating licensing and training requirements for *mohelim* (ritual circumcisers) and regulating specific aspects of the practice. These laws were similar to those that applied to midwives and demanded medical oversight of mohelim. Interestingly,



Drawing of a bas-relief found in the tomb of Ankh-Mahor, approximately 2350 BCE, first excavated in 1899

not all officials agreed with this policy. For example, in 1844, Dresden's medical officer criticized the governmental oversight, argued for the sanctity of religious rites, stated that it was a religious custom that should remain free and untouched, and refused to implement the state law [4]. At the time, this debate was limited to German-speaking lands, and even there it did not attempt to ban circumcision but rather focused on regulating it for health reasons.

In contrast to Europe, in the United States in the mid-20th century neonatal circumcision became almost routine, with reports of up to 95% of newborn infants being circumcised [5]. One of the first concerted attacks against circumcision in the U.S. was a book published by Joseph Lewis in 1949 [6]. It was an outrageous polemic, with little fact, and blamed circumcision for almost everything including allergies, stammering, rheumatic fever and heart disease. This sort of absurd attack continued with John Foley who wrote that "circumcision has few, if any medical benefits. Any link between circumcision and the prevention of genital cancer is at best unproved" [7]. He reports a case (!) "in which an infant was being delivered ... and just as the penis came into view, the obstetrician seized it and circumcised it."

RECENT DEVELOPMENTS

The most severe infringement on the free practice of religious circumcision is probably in Sweden. A 2001 law requires all circumcisers to be certified by the National Board of Health, be accompanied by a physician or an anesthesia nurse, and mandates that anesthetic be applied beforehand. The World Jewish Congress labeled this "the first legal restriction on Jewish religious practice in Europe since the Nazi era" (see <http://www.circumstitions.com/Sweden.html>).

In 2011 there was an attempt to ban circumcision outright in the city of San Francisco. Unlike in Germany where the court held that circumcision violated an existing general law, in San Francisco the goal was to pass a targeted law that

specifically outlawed circumcision. The anti-circumcision movement achieved unprecedented success when a group of "intactivists" (people who believe that infant boys have a right to keep their foreskins "intact") gathered enough signatures to put a circumcision ban on the ballot. In addition to differing on the medical merit of circumcision, critics accused backers of the referendum of violating the First Amendment's protection of religious freedom. Indeed, the referendum explicitly stated that the ban would apply to religious circumcisions, and, if it had passed, parents in San Francisco could have received a year in jail, a \$1000 fine, or both, for circumcising their sons. The referendum never made it to the November ballot because a Superior Court judge ruled in July that as "a widely practiced medical procedure," the city could not ban it because California state law forbids municipalities from regulating medical procedures allowed by the state.

Within the last year an anti-circumcision movement has become active in Denmark. They claim that there is no anti-semitic element involved, but that they view it as a basic human right to have an intact body and any non-medically indicated surgery on a child is tantamount to assault. They assert that studies purporting to show that circumcision has medical benefits are irrelevant in a modern western country like Denmark where there is good health care and proper hygiene, and that there are more effective methods, such as condom use, of preventing sexually transmitted diseases. They further cite a study by Frisch et al. [8] that reports a downside to circumcision – namely, that a significantly larger number of circumcised men and their female partners report sexual problems than do uncircumcised men and their female partners. It should be noted that the conclusions of this study have been challenged on methodological grounds [9]. The Danes argue that it is logical that in a country in which child welfare is protected to the extent that spanking is universally banned, a procedure that inflicts pain and is not medically warranted should be banned.

In Germany, the current attack on circumcision is not via legislation but rather through the judicial system. A Cologne regional court ruled in June 2012 that circumcision of male infants was equivalent to causing grievous bodily harm, a criminal act. The specific case involved a 4 year old Muslim boy who was circumcised by a physician at his parents' request. Several days later the boy suffered heavy bleeding and the doctor was charged. The court acquitted him of causing harm but found that the right of the child to keep his physical integrity trumps the rights of parents to observe their religion. Under German law, this ruling is final and cannot be appealed to the Federal Constitutional Court. Thus, the only way to permit ritual circumcision is via legislation that would clarify the balance between religious freedom and protection of physical integrity. The government of Angela Merkel is actively working on such legislation.

This was not the first time that courts found circumcision to be assault. It occurred previously in Germany and elsewhere. For example, in 2006, a state court in Düsseldorf convicted a Muslim ritual circumciser of causing dangerous bodily harm after he circumcised seven boys in what was described in the court as dirty and unhygienic conditions. In a widely reported case, in 2010 a Jewish Finnish couple was ordered to pay their own son 1500 Euros in damages for causing bodily harm after they hired a British mohel to circumcise him in 2008.

In summary, modern movements opposing child circumcision no longer base their arguments on religious motives but on the claims that circumcision has risks (short term and long term), is devoid of health benefits, and, as a consequence of those two, constitutes assault on a non-consenting child.

DEFENSE OF CIRCUMCISION

We feel that there is no ethical justification to ban circumcision for the following reasons:

- The ethical basis of modern medical ethics is autonomy and human freedom. Numerous ethical codes have endorsed this concept as the cornerstone of medical ethics. For example, the Physician Charter on Medical Professionalism endorsed by over one hundred medical societies worldwide states as one of its cardinal principles:

Physicians must have respect for patient autonomy. Physicians must be honest with their patients and empower them to make informed decisions about their treatment. Patients' decisions about their care must be paramount, as long as those decisions are in keeping with ethical practice and do not lead to demands for inappropriate care [10].

For example, autonomy is used as a basis for the ethical justification of euthanasia. A suffering patient can decide he or she no longer wants to live and in many jurisdictions can legally arrange for a physician to end their life. An adult patient can also obviously decide that he wishes to be circumcised. It is also universally accepted that parents are the decision makers for their minor children. They are assumed to be acting in the best interest of the child. This right is only taken away when there is immediate danger to the life of the child. We are unable to see why the courts and some liberal ethicists want to take away this parental decision making.

- As extensively documented by Kacker and Tobian [11] in this issue of *IMAJ*, there is now an abundance of medical evidence that circumcision is medically beneficial, particularly in the prevention of sexually transmitted diseases. This year the American Academy of Pediatrics released a statement based on 5 years of evaluation, concluding that "the health benefits of newborn male circumcision outweigh the risks" [12]. It is worth noting that this policy statement specifically referred to newborn circumcision when the risks are

lower than child or adult circumcision and during the period where additional medical benefits exist. In addition, a recent study [13] that evaluated the cost to the health care system of falling U.S. infant circumcision rates projects that a decrease to 10% in the rate of male circumcision will increase lifetime health care costs by about \$407 per man and \$43 per woman. Once the cost of the procedure is figured in, along with the costs of potential complications, net health care costs would be expected to rise by about \$505 million.

- Like any surgical procedure there are potential risks involved. The rabbis of old were acutely aware of the danger involved in circumcision, and knew that some infants might actually die, usually from blood loss. Jewish law mandates minimizing the risk by delaying circumcision of sick infants and banning the circumcision of a boy for whom it poses a risk. A recent Israeli study that looked at complications from infant circumcision found that the overall rate was very small, approximately 0.34%. Probably more significant was that the type of complications following circumcision performed by mohelim and physicians were similar. In explaining this, the authors suggest that it may be related to the expertise of the mohelim, in that it is the sole or main occupation for many and they are therefore professional and experienced [14]. A larger, American hospital-based study found an even lower rate; about 1 of every 476 circumcisions [15]. That compares to approximately 1 of 20 for refractive eye surgery. It is important to note that both circumcision studies were dealing with infants and not older children.
- Other cosmetic procedures performed on children are accepted in the western world. For example, no one questions the right of the parent to have extensive orthodontic treatments performed on their children for purely cosmetic

reasons. These procedures are usually performed on pre-teen children and involve many treatments that can last over several years. There is also not insignificant pain involved. But they are allowed because parents are thought to be acting in the best interest of the child. This argument would not hold for so-called female circumcision, which involves far greater risk, carries no known medical benefit, and includes unquestioned life-long harm.

The evidence presented by Kacker and Tobian [11] and the American Academy of Pediatrics [13] in conjunction with standard ethical principles are all in favor of permitting infant male ritual circumcision. However, it is not the medical benefit of circumcision that leads us to believe that religious infant circumcision should be freely permitted in open societies. Although Jewish law forbids permanent tattoos, we strongly feel that parents should have the right to tattoo their children if it is a significant part of their religious or cultural norm and is within reason.

It seems clear to us that freedom of religion, parental privilege, and public health considerations all support the continuation of ritual male infant circumcision in the developed and developing world. Naimer [1] emphasizes that it is imperative that physicians be educated about ritual circumcision and that mohelim be properly trained. We certainly agree with him on those points.

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Capsule

Mutations in the gene *CIB2* contribute to Usher syndrome and non-syndromic deafness

Individuals with the hereditary disorder Usher syndrome suffer from hearing loss. Associated genetic mutations impair function of the inner ear, where sensory cells fail to convert sound waves into electrical signals. Riazuddin et al. have determined that mutations in the gene *CIB2* contribute to Usher syndrome and non-syndromic deafness. *CIB2* encodes calcium and integrin binding protein 2, which is widely expressed in human and mouse tissue. In the mouse inner ear, the protein localizes to the tips of stereocilia of inner ear cells. When deflected by sound waves, ion channels in these hairlike projections open, triggering a mechano-electrical signaling cascade. *CIB2*

interacts with whirlin, a protein that organizes molecular complexes that maintain stereocilia structure and growth. Suppression of *CIB2* expression in zebrafish disrupted responses to acoustic stimuli and caused abnormal balance during movement. Overexpression of *CIB2* in cultured cells decreased the release of calcium from intracellular stores. *CIB2* may help to maintain intracellular calcium homeostasis in inner ear cells by sequestering calcium and influencing the release of stored calcium during mechano-electrical signal transduction.

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Eitan Israeli

Capsule

Targeting VEGF-B as a novel treatment for insulin resistance and type 2 diabetes

The prevalence of type 2 diabetes is rapidly increasing, with severe socioeconomic impacts. Excess lipid deposition in peripheral tissues impairs insulin sensitivity and glucose uptake, and has been proposed to contribute to the pathology of type 2 diabetes. However, there are few treatment options that directly target ectopic lipid accumulation. Recently it was found that vascular endothelial growth factor B (VEGF-B) controls endothelial uptake and transport of fatty acids in heart and skeletal muscle. Hagberg et al. show that decreased VEGF-B signaling in rodent models of type 2 diabetes restores insulin sensitivity and improves glucose tolerance. Genetic deletion of *Vegfb* in diabetic db/db mice prevented ectopic lipid deposition, increased muscle glucose uptake and maintained normoglycemia. Pharmacological inhibition of VEGF-B signaling by antibody administration to db/db mice enhanced glucose tolerance, preserved

pancreatic islet architecture, improved β cell function and ameliorated dyslipidemia, key elements of type 2 diabetes and the metabolic syndrome. The potential use of VEGF-B neutralization in type 2 diabetes was further elucidated in rats fed a high fat diet, in which it normalized insulin sensitivity and increased glucose uptake in skeletal muscle and heart. Their results demonstrate that the vascular endothelium can function as an efficient barrier to excess muscle lipid uptake even under conditions of severe obesity and type 2 diabetes, and that this barrier can be maintained by inhibition of VEGF-B signaling. The authors propose VEGF-B antagonism as a novel pharmacological approach for type 2 diabetes, targeting the lipid transport properties of the endothelium to improve muscle insulin sensitivity and glucose disposal.

Nature 2012; 490: 426

Eitan Israeli

“What you really value is what you miss, not what you have”

Jorge Luis Borges (1899-1986), Argentinian short-story writer, essayist, poet and translator