Jaundice and Circumcision

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Neonatal Hyperbilirubinemia

Bilirubin is a bile pigment that circulates in the plasma. Under normal circumstances, bilirubin is taken up by the liver cells and conjugated to form bilirubin diglucuronide. This substance is then excreted in bile. Unconjugated bilirubin is incapable of being excreted. Thus, a failure of the liver to conjugate bilirubin can result in hyperbilirubinemia, a term used to describe excessive concentrations of bilirubin in the blood. One consequence of excessive concentrations of bilirubin in the blood is jaundice.¹

Jaundice, a syndrome characterized by hyperbilirubinemia and deposits of bile pigment in the skin, mucous membranes and sclera, results in a yellowish appearance of the patient. Extremely high levels of bilirubin in the blood can lead to kernicterus, a condition with severe neural symptoms characterized by deep yellow staining of the brain, which can potentially cause major brain dysfunction.²

Ironically though, a fetus cannot excrete conjugated bilirubin; during gestation only unconjugated bilirubin passes through its system via the mother's placenta. What results at birth is a newborn with a system adapted to convert conjugated bilirubin into unconjugated bilirubin, rather than the reverse. This results in a buildup of unconjugated bilirubin in the blood, causing hyperbilirubinemia. In adults, normal serum bilirubin levels are usually below 1.5 mg of bilirubin per dl of blood.³ In contrast, in full-term infants, 1/6 of formula-fed babies and 1/3 of breastfed babies reach levels that exceed 12 in their first viable week. Usually, full term infants' bilirubin levels peak between day three and day five. Infants born prematurely display even higher levels of bilirubin that tend to peak several days later. This particular form of hyperbilirubinemia is known as neonatal hyperbilirubinemia. Like

Douglas M. Anderson et al. (eds.), Dorland's Illustrated Medical Dictionary (Philadelphia, PA 1988), 205, 791.

² *Ibid*, 865, 876.

The rest of this paper will refer to bilirubin levels with mg/dl as a given.

other forms of hyperbilirubinemia, this usually leads to jaundice. Nevertheless, this type of jaundice is considered physiological, and, assuming that there is no other cause for the buildup of bilirubin, the newborn is assumed to be otherwise perfectly healthy.⁴

Yet, evidence of high levels of bilirubin in a newborn is not ignored. Although the most common cause for high bilirubin levels in infants may be attributable to neonatal hyperbilirubinemia, there are other factors and diseases that may create the same yellowing effect. Many diseases, for example, lead to increased production of bilirubin, deficiency of hepatic uptake, impaired conjugation of bilirubin, or increased enterohepatic circulation, all of which result in elevated levels of bilirubin in blood.⁵ Exclusion of all other diseases leads to a diagnosis of neonatal hyperbilirubinemia.

⁴ Ivan Hand, "Bilirubin Metabolism in the Neonate", lecture presented at the Albert Einstein College of Medicine, February 25, 2002. I would like to thank Dr. Howard Steinman for granting me permission to attend the lecture.

Louis P. Halamek and David K. Stevenson, "Neonatal Jaundice and Liver Disease", in Neonatal-Perinatal Medicine: Diseases of the Fetus and Infant, eds. Avroy A. Faranoff and Richard J. Martin (St. Louis, MO, 1997), 1345-1389. Most cases of pathological jaundice are due to increased production of bilirubin. The increased production is usually due to a blood group incompatibility between the mother and the infant, either through Rh incompatibility, or through ABO blood group incompatibility. This is known as isoimmune hemolytic disease. Testing for these incompatibilities is standard, either in pre-natal care, or after delivery, which makes diagnosis of isoimunization fairly simple. Another cause of hemolytic disease is Glucose-6-phosphate dehydrogenase deficiency (G6PD). What is interesting for this discussion is that G6PD is most common in Sephardic Jews. See Michael Kaplan and Ayala Abramov, "Neonatal Hyperbilirubinemia Associated with Glucose-6-Phosphate Dehydrogenase Deficiency in Sephardic Jewish Neonates: Incidence, Severity, and the Effect of Phototherapy", Pediatrics 90 (1992): 401-405. The most common cause of deficiency of hepatic uptake is Gilbert's syndrome. Gilbert's syndrome is fairly benign and doesn't manifest itself until the second decade of life. Crigler-Najjar syndrome type I, Crigler-Najjar syndrome type II, and Lucey Driscoll syndrome, are all rare genetic diseases which cause disorders of proper conjugation of bilirubin. Although these diseases can be positively identified through testing, it is generally not recommended unless there is a family history of this disease. Breastfeeding jaundice is the most common form of increased enterohepatic circulation. Exclusively breast-fed infants generally don't ingest as much as bottle-fed infants. This leads to underhydration and malnourishment which causes the increase in enterohepatic circulation. Although this is classified as pathological jaundice, in reality, it is an extension of physiological jaundice which reverts to normal once the infant acclimates himself to breast-feeding and the mother's lactation system begins to function normally.

Moreover, this still will not rule out the possibility of kernicterus, although it is extremely rare.⁶

Relationship Between Jaundice and Circumcision

An infant diagnosed with neonatal hyperbilirubinemia is at no more of a risk to undergo a circumcision than a newborn without this diagnosis. Although to date, no formal study has been conducted on the effects of circumcision on jaundiced infants, the consensus among physicians who have written on this topic clearly indicates that there is no reason to suspect that there is any correlation of risk between circumcision and an elevated bilirubin level. If medical opinion was the only criterion in determining whether a circumcision should be performed, there would be no hesitancy to circumcise a baby with physiological jaundice.

Nevertheless, there is a passage in the *Gemara*, *Shabbat* 134a, which may indicate that circumcision should not be performed on an infant who is jaundiced. The *Gemara* states:⁸

Abaye also said: Mother told me, If an infant is too red, so that the blood is not yet absorbed in him, we must wait until his blood is absorbed and then circumcise him. If he is *yarok*, 9 so that he is deficient in blood, we must wait until he is full-blooded and then circumcise him. For it was taught [in a *beraita*]¹⁰, R. Nathan¹¹ said: I once visited the Sea-towns, and a woman came before me who had

Between 1979 and 1991, only six such cases were reported. See M. Jeffrey Maisels and Thomas B. Newman, "Kernicterus in Otherwise healthy, Breast-fed Term Newborns", *Pediatrics* 96 (1995): 730-733.

See Ya'akov Levy, "Milat ha-Tinok ha-Yarok", No'am, X, (1967): 168-179, Avraham Steinberg, "Brit Milah: Heibatim Refui'im Hilchati'im", Techumin 2 (1983): 318-319. See also, Avraham Steinberg, "Tzahevet ha-Yilud", in Encyclopedia Hilchatit Refu'it, ed. A. Steinberg, IV, (Jerusalem, 1994): 794-795, who includes a statement from the directors of neonatology in four major Israeli hospitals who concur with the above statement.

See also, Dimitri A. Christakis *et al.*, "A Trade-off Analysis of Routine Newborn Circumcision", *Pediatrics* 105 (2000): 246-249, who studied 130,475 infants who were circumcised. Of this group, only .2% experienced complications from the circumcision, most of which were due to surgical complications. None of the complications were listed with jaundice having any relevance despite the fact that 60% of infants have clinical jaundice. See, *infra*, note 21.

⁸ Translation taken from I. Epstein (ed.), *The Babylonian Talmud* (London, 1938).

⁹ Translated as green.

¹⁰ Added to the translation.

Will be referred to as R. Natan throughout the article.

circumcised her first son and he had died and her second son and he had died; the third she brought before me. Seeing that he was [too] red I said to her, Wait until his blood is absorbed. So she waited until his blood was absorbed and [then] circumcised him and he lived; and they called him Nathan the Babylonian after my name. On another occasion I visited the Province of Cappadocia, and a woman came before me who had circumcised her first son and he had died and her second son and he had died; the third she brought before me. Seeing that he was *yarok*, I examined him and saw no covenant blood in him. I said to her, Wait until he is full-blooded; she waited and [then] circumcised him and he lived, and they called him Nathan the Babylonian, after my name.

This statement of Abaye's mother (nurse) is codified by Rambam, *Hilchot Milah* 1:17, and *Shulchan Aruch*, *Yoreh De'ah*, 263:1. Consequently, many contemporary authorities disallow circumcision of a jaundiced infant despite the fact that modern medicine does not view physiological jaundice as presenting any health concern.¹² The main argument put forth by these authorities is that one may not accept medical opinions that contradict the words of *Chazal*.¹³ This ruling comes despite the fact that the

Tzitz Eli'ezer, XIII, no. 81, Minchat Yitzchak, III, no. 145, R. Yosef S. Eliashiv, quoted in Abraham S. Abraham, Nishmat Avraham, V, 84, R. J. David Bleich, "Circumcision", in Contemporary Halachic Problems, II (New York, NY 1983), 233-241. See also "Moda'ah ve-azhara la-mohalim", printed in Zocher ha-Brit, which is an edict signed by nineteen rabbis on April 13, 1977, warning that one must not circumcise a jaundiced infant under any circumstance, even if the physician approves of performing the circumcision. This edict demands that the infant have a bilirubin level below 5 in order to perform the circumcision. See also, Avraham Steinberg, "Tzahevet ha-Yilud", who points out that mohalim use various arbitrary bilirubin levels in order to determine when to perform the circumcision.

¹³ Central to this discussion is how to deal with scientific statements found in the Talmud which contradict modern scientific knowledge. R. Avraham ben ha-Rambam, "Ma'amar al Derashot Chazal", printed in Ein Ya'akov, writes that all of the scientific information found in the Talmud is based on the scientific knowledge available at that time, and is not based on prophecy and the like. Therefore, if scientific knowledge of a later generation assumes that the original information is a mistake, the statement found in the Talmud should be disregarded. A similar view is found in Otzar ha-Ge'onim, Teshuvot, Gittin 376.

Teshuvot ha-Rashba, I, no. 98 writes regarding a case of a treifah (for a definition of treifah, see infra, note 36) that apparently lived for more than twelve months, a phenomenon that the Talmud says does not happen. Rashba claims that there must be some mistake in counting the months. He writes that anyone who says that a

circumcision will not be performed on the eighth day.¹⁴ Other authorities, on the other hand, have permitted circumcision on an infant with physiological jaundice.¹⁵ The purpose of this article is to show that the latter opinion has a very strong basis upon which one may rely.

Sources and Analysis

The language of the *Gemara* leaves us with a few unanswered questions: 1) To what color does *yarok* refer? 2) What disease is plaguing this *tinok ha-yarok*? 3) Why does this statement come from the mother of Abaye and not from one of the Talmudic sages? 4) Is there real support of Abaye's mother's statement in the *beraita*?

treifah lived for more than twelve months is a liar for he is contradicting the words of Chazal. If it is known that the animal lived for more than twelve months, it must be that the animal was not a real treifah. See, however, Maharshal, Chullin, 3:80, who disputes Rashba's assumption that all treifot must die within twelve months. Maharshal assumes that the Talmud only meant that most treifot die within twelve months, but there might be a small minority who survive. See also Teshuvot Maharam Schik, Yoreh De'ah, no. 244, who assumes that Rashba's opinion is limited to treifah because the laws of treifah are part of a Sinaitic tradition. Other areas of Halacha, which are not based on Sinaitic tradition, may change based on modern scientific knowledge. See also, Chazon Ish, Ishut, 27:3, who writes that the laws of treifah were concretized at a certain point in time based on scientific knowledge of the time. Although later generations may find ways to heal the treifah, the laws of treifah do not change. A treifah is not defined by its ability to live, but by its ability to live in the time when the laws were codified.

R. Yosef Lerner, *Shemirat ha-Guf ve-ha-Nefesh* (Jerusalem, 1988): 50-55, quotes R. Shlomo Zalman Auerbach who did not know of any authorities who explicitly disagree with R. Avraham ben ha-Rambam. However, he did get the impression that some *Rishonim* hint to having a different position on the matter. For a lengthy discussion of this topic, see Neriyah Gotel, *Hishtanut ha-Teva'im be-Halacha* (Jerusalem, 1995), and Avraham Steinberg, *Encyclopedia Hilchatit Refu'it*, II, 244-304.

- Rambam, Commentary on the Mishna, Shabbat 19:4 writes that one who does not circumcise his son on the eighth day has violated a grave positive commandment. See also Tosafot, Makkot 14a, s.v. le-afukai and Rabad in a gloss to Rambam, Hilchot Milah 1:2, who assume that there is an ongoing violation of this commandment for failure to circumcise oneself once one reaches adulthood. Machatzit ha-Shekel 444:11, assumes that the same applies to the father of a child while he is a minor. See, however, Yabbia Omer, V, Yoreh De'ah, no. 23, who understands that some authorities are of the opinion that once the circumcision is performed, the violation is annulled retroactively. See Avnei Nezer, Yoreh De'ah, no. 326, who assumes that there is a mitzvah to circumcise on the eighth day in addition to the general mitzvah of circumcision.
- R. Shlomo Zalman Auerbach, quoted Nishmat Avraham, V, 84, Yalkut Yosef, Hilchot Milah, 122, R. Moshe D. Tendler, "Tzahevet Yeludim u-Milah be-Zemanah", Beit Yitzchak 27 (1995): 107-112.

The *beraita* explicitly refers to two cases where there was a clear family history pointing to danger. Should this precedent apply to *all* infants? If so, why?

The color *yarok* is found in numerous places in the *Gemara* and its commentaries. *Tosafot Chullin* 47b, *s.v. elah*, and *Niddah* 19b, *s.v. ha-yarok*, present us with three possibilities as to what the color *yarok* could refer: blue, yellow, or green. In an attempt to accurately diagnose the *tinok ha-yarok*, the designation of the color is crucial. Various theories have been presented attempting to identify the disease in the *tinok ha-yarok*.¹⁶

Regardless of the various divergent theories, there really is no need for speculative diagnoses of the tinok ha-yarok. During the time of the Gemara, there was no available testing for any of these diseases. Still, a diligent observer in those times would have been wary that an infant with a yellow or blue complexion was at risk for disease. This aroused concern warranted some delaying circumcisions until such symptoms dissipated. However, today, given this same logic, once an infant is diagnosed as having physiological jaundice, and therefore at no greater risk to undergo circumcision than an infant of otherwise comparable health, the infant should be circumcised without delay, despite his yellow complexion.

Is the passage of *Gemara* of *halachic* stature? That this statement originates from Abaye's mother seems to indicate that it is not based on any *halachic* tradition. In fact, Rashi *ad loc.*, *s.v. imei*, points out that the statements of Abaye's mother recorded in the *Gemara* are based on her experience as a nurse, and thus reflecting a medical opinion of the time. Furthermore, *Rif*, *Shabbat* 53a, and *Rosh*, *Shabbat* 19:2, quote the passage verbatim without

Julius Preuss, *Biblical-Talmudic Medicine*, trans. Fred Rosner, (New York, NY): 164-167, assumes that the *tinok ha*-yarok was yellow and diagnoses him as having anemia. Dr. Ya'akov Levy, "Milat ha-Tinok ha-Yarok", No'am, X, (1967): 168-179, posits that the *tinok ha-yarok* was yellow and was afflicted with hemolytic disease, a condition which can eventually lead to jaundice (see *supra*, note 5). Dr. Avraham Steinberg "Brit Milah: Heibatim Refui'im Hilchati'im", Techumin 2 (1983): 318-319, hints to the fact that the *tinok ha-yarok* was plagued with cyanosis, a bluish discoloration of the skin due to excessive concentration of reduced hemoglobin in the blood (see Douglas M. Anderson, 415). This condition is colloquially referred to as "blue baby." The indication is that *yarok* here means blue.

attributing *halachic* significance to it.¹⁷ Rambam, *Hilchot Milah* 1:17, and *Tur*, *Yoreh De'ah* 263, codify as law that one should not circumcise a *tinok ha-yarok*. Still, this is far from definitive proof that the passage is of *halachic* nature. Plausibly, Rambam and *Tur* codified the *beraita* because they considered it to be based on medical facts. If so, modern medical evidence, which either disproves or limits this recommendation, should supercede the outdated medical tradition that all jaundiced infants are at risk of disease.¹⁸

Further evidence that the statement of Abaye's mother was based on medical knowledge and not on halachic tradition lies in the beraita brought to support the statement. In order to understand the role of the beraita, it is important to know the context from which it was taken. The beraita appears partially in the Tosefta, Shabbat 16:5. The Tosefta outlines the rule of meitu echav mechamat milah - if an infant is born to a mother who has previously lost two children as a result of circumcision, that infant is exempt from the obligation of circumcision. Chasdei David, ad loc., notes that this rule only applies if there is no known cause for the complication caused by the circumcision. If one is able to determine the cause of death of the previous infants, all subsequent infants born to that mother may undergo circumcision so long as they do not display similar symptoms. Consequently, this explains why R. Natan permitted the *tinok ha-yarok* to be circumcised after his color returned to normal. Apparently, R. Natan attributed the cause of death of the previous infants to the fact that they were yarok at the time of circumcision.¹⁹ Once the tinok was no longer yarok, he became fit for circumcision.

Rif and Rosh generally do not quote passages from the Gemara which are not halachic in nature. The fact that this passage is quoted certainly does indicate halachic significance.

See *supra*, note 13.

¹⁹ See *Noda bi-Yehudah*, II, *Yoreh De'ah*, no. 165, who gives a similar explanation as to the role of the *beraita*. See, however, *Teshuvot Chatam Sofer*, *Yoreh De'ah*, no. 245, who has a different explanation. Chatam Sofer claims that the basis for R. Natan's ruling was that only two infants died subsequent to this infant. If three infants would have died, the rule of *meitu echav mechamat milah* would have applied and there would have been no way to circumcise this infant even if there was a known cause of death for the previous infants. Being that only two infants died, there was an obligation to perform the circumcision despite the potential risk. R. Natan was merely giving the woman advice as to how to minimize the risk involved in circumcising this infant. However, Chatam Sofer admits that his explanation

The explanation of *Chasdei David* helps elucidate why this *beraita* supports the statement of Abaye's mother. Certainly, R. Natan would not have ascertained that *varok* was the cause of death of the previous infants unless it was reasonable to assume that there was a chance of death associated with circumcising a tinok ha-yarok. Thus, at the very least, both Abaye's mother's statement and R. Natan's actions lend support to the belief that circumcising a tinok ha-varok may be fatal. Of course, not all infants who are *varok* are at risk. Thus, one may logically conclude, that while the *beraita* is an actual *halachic* ruling implicating yarok as a reasonable cause of death, the suggestion of Abaye's mother, is merely sound medical advice, based on the same medical information known to R. Natan. Such advice need only be followed in the event that its basis is proven to be correct. However, once the initial premise is proven false, namely, by medically assuring that exhibiting a yellow complexion does not amount to any potential danger to the child, a timely circumcision should be performed.

It is also possible that the *Gemara* never intended to prohibit circumcision in all cases of *yarok*. Rambam, *Hilchot Milah* 1:17, writes that if the infant is "yarok be-yoter," overly yarok, he may not be circumcised. *Me'iri*, *Shabbat* 134a, *s.v. katan*, as well as *Or Zaru'a*, *Hilchot Milah* no. 100, also adopt the use of the term "yarok be-yoter." *Chochmat Adam*, 149:4, cites this definition of yarok as the normative *halachic* opinion. By implication, an infant that shows only a slight shade of yarok, slight 'yellowness,' may be circumcised. *Avnei Nezer*, *Choshen Mishpat*, no. 125, cites Rambam's formulation as a mitigating factor, allowing the doctor to be the ultimate decision maker as to whether the circumcision may be performed.²⁰

contradicts the statement of *Tosafot*, *Chullin 47b s.v. shelishi*, that R. Natan assumed the rule of *meitu echav mechamat milah* applies after only two deaths.

Avnei Nezer bases himself on the talmudic principle that if there is a danger which is disregarded by many people, one may also put himself in a position where he is subject to the same danger. See Chidushei ha-Ritva, Yevamot 72a, s.v. shomer, who writes that although one is permitted to endanger himself in such a situation, one is not obligated to endanger oneself, even to perform a circumcision. However, Teshuvot Torat Chesed, Even ha'Ezer, no. 44, understands that Rashi, Yevamot 12b s.v. meshamshot, disputes the opinion of Ritva. He claims that Rashi's understanding of this talmudic principle is that if the people decide to endanger themselves and no danger results, one may assume that there is no longer any danger. Therefore, one may not postpone the circumcision because there is no longer a danger. However, if there is a minority of people who are harmed by endangering themselves in this situation, the principle doesn't apply and nobody has the right to endanger oneself. Based on Torat Chesed's analysis, everyone agrees

Following the assumption that the *tinok ha-yarok* was jaundiced, the infant described in the *Gemara* must have displayed signs of a *tinok "ha-yarok be-yoter"* since more than 60% of all infants born are clinically jaundiced.²¹ It would be illogical and farfetched to assume that historically, 60% of all circumcisions were postponed past the eighth day. Had that been the case, this issue would most certainly have been more heavily discussed in earlier sources. The lack of discussion may be attributable to the fact that the standard of *yarok* was always "*yarok be-yoter*".²²

R. Bleich contends, based on the opinion of *Teshuvot Maharam Schik*, *Yoreh De'ah*, no. 244, that modern medical opinion is insufficient to disprove the risk previously associated with circumcising a *tinok ha-yarok*.²³ *Halacha* dictates: *lo halchu be-pikuach nefesh achar ha-rov*²⁴– probability is not followed in life and death matters. Based on this rule, Maharam Schik argues that for *halachic* purposes, one may never disprove the existence of any risk that was previously thought to exist. This is so since the only way to counter what was once believed to be a risk, is through experimentation. And, since experimentation only produces probabilities, (*i.e.*, an experiment, by definition, can never prove definitively that all results will be the same), no experiment would be able to counter a previously held notion.²⁵ R. Bleich extends this

that when there is absolutely no danger, there is no option to postpone the circumcision.

Vinod K. Bhutani et al., "Noninvasive Measurement of Total Serum Bilirubin in a Multiracial Predischarge Newborn Population to Assess the Risk of Severe Hyperbilirubinemia", Pediatrics 106 (2000): e17.

See Aruch ha-Shulchan 263:2, who has a different understanding of Rambam's opinion, and claims that the use of the term "be-yoter", excludes yellowness that is part of the natural complexion of the infant. See also Nimukei ha-Riv, Yoreh De'ah 263:1, who notes that Shulchan Aruch, Yoreh De'ah 263:1, omitted the word "be-yoter" in codifying this law. Assuming these claims are correct, in light of current medical knowledge, there is no reason to question the reliability of science when it contradicts Chazal if there is an alternative interpretation of the words of Chazal. It doesn't seem logical to follow an interpretation which forces one to try to justify the discrepancy between the Talmud and scientific knowledge when there is an alternative that allows for agreement.

²³ R. Bleich, 234-235.

Yoma 84b. This rule states that even if there is a very low probability of saving one's life, there still exists an obligation to save him even if it is necessary to violate Biblical prohibitions.

Maharam Schik himself doesn't necessarily agree with this principle. Maharam Schik utilizes this principle as one possibility in explaining why metzitza, sucking of the blood after the circumcision, is required. The Gemara Shabbat 134b, states that

line of reasoning to the case of a jaundiced infant. Since the *Gemara* warns of danger in circumcising a jaundiced infant, experimentation, though highly convincing, is not sufficient to *halachically* rid ourselves of that fear.²⁶

This argument is questionable for two reasons. First, the position of Maharam Schik was never accepted as normative, either by those who preceded him²⁷ or by those who succeeded him.²⁸ Moreover, there is no compelling reason to interpret the *Gemara* as necessarily referring to a case of physiological jaundice. Many other plausible interpretations of the *Gemara* exist.²⁹ Perhaps Maharam Schik's position should be limited to situations where the supposed risk factor is clearly identifiable, and, experimentation has shown that this factor does not, in fact, exist. However, if the risk as presented in the *Gemara* is attributable to a different cause, the experiment is acceptable. As the *Gemara* may not have included physiological jaundice in the category of *tinok ha-yarok*, even Maharam Schik would agree that a timely circumcision should be performed.

if *metzitza* is not performed post-circumcision, the infant is susceptible to danger. Maharam Schik contends that although medical opinion indicates that there is no risk involved in omitting *metzitza*, the obligation of *metzitza* still exists. One of the reasons he gives to defend this position, is the aforementioned principle.

Furthermore, see *Teshuvot Maharam Schik*, *Choshen Mishpat*, no. 54, who seems to imply that this principle would only apply if there is no *mitzvah* that will be nullified by following this principle. Whereas performing *metzitza* out of concern that there may be a danger in its omission doesn't nullify any *mitzvah* (with regards to the violation of Shabbat for performing *metzitza*, see *Teshuvot Binyan Tzion*, no. 23), postponing the circumcision for such a concern would constitute the nullification of a mitzvah. Therefore, application of this principle to this situation is questionable.

R. Bleich also quotes *Pri Megadim*, *Eshel Avraham*, *Orach Chayyim* 328:2, who rules that if someone is inflicted with a wound which the Talmud considers to be life threatening, he must violate Shabbat even if the doctor says that wound is not life threatening. See, however, R. Lerner, 54-55 who quotes R. Yosef S. Eliashiv as stating that *Pri Megadim's* ruling is limited to a case where an individual doctor says that there is no danger. However, if the entire medical community agrees that there is no danger, one may not violate Shabbat.

Magen Avraham 173:1, Teshuvot Chatam Sofer, Yoreh De'ah, no. 101, Teshuvot R. Akiva Eger, no. 60. Maharam Schik acknowledges that he is disputing the opinion of these authorities.

²⁸ Teshuvot Torat Chesed, Even Ha'ezer, no. 44, Mishna Berurah 173:3, Aruch ha-Shulchan 173:2.

²⁹ See *supra*, note 22.

Circumcision of a *Choleh*

Absence of risk from the circumcision does not guarantee a timely circumcision. The Mishna, *Shabbat* 137a, states that a *choleh* is not circumcised until he is healed. The *Gemara*, *ad loc.*, quotes Shmuel who holds that an infant recovering from fever must wait seven days before being circumcised. Shmuel's ruling may be interpreted, by extension, to mean that circumcision may not be performed on an infant with any illness, regardless of the degree of risk posed by the illness. Pursuant to this line of reasoning, since a clinically jaundiced infant is considered a "*choleh*," he may not be circumcised until seven days after the termination of his condition.³⁰

However, a closer examination of Shmuel's ruling indicates that this was not Shmuel's intention. Rosh, Shabbat 19:9, in discussing whether the seven day period ends after a count of seven complete days, or at the beginning of the seventh day, writes that one must assume the more stringent position (i.e., seven complete days) for when it comes to matters of life and death, one should always be stringent. Applying the ruling to Shmuel's position, it is conceivable that Shmuel arrived at his conclusion based on a legitimate concern that the infant was not yet physically fit to be circumcised, rather than the requirement of a formal waiting period. Shulchan Aruch, Yoreh De'ah 262:2, quotes Rosh's opinion as normative. Rambam, Hilchot Milah 1:17, 18, as per the understanding of Shulchan Aruch, Yoreh De'ah 263:1, seems to be of the same opinion. Shulchan Aruch quotes Rambam³¹ as saying, "One must be very careful in these matters, so as not to circumcise an infant that might be ill, for life saving matters supercede everything." It is clear that Shulchan Aruch understands that the laws of circumcision which relate to infants who are ill, are not formal rules, but practical health concerns.32

³⁰ Minchat Yitzchak, III, no. 145.

³¹ Shulchan Aruch combines two phrase of Rambam into one. One is not compelled to understand Rambam the way Shulchan Aruch does.

This theme is also apparent in *Maharik*, no. 146. Maharik, in discussing the length of time one must wait to circumcise an infant who recovered but had several symptoms recur a few days into the recovery, notes that one must wait seven days from the latest symptom because it is a life and death matter. Thus, Maharik clarifies that Shmuel's ruling is not of a formal nature, but rather, due to legitimate concern over the infant's well-being. *Minchat Yitzchak*, III, no. 145, quotes other authorities that dispute Maharik's ruling in defense of his own opinion.

However, it is difficult to ignore Shmuel's ruling when medical knowledge doesn't see a seven-day waiting period as necessary.³³ Shmuel's ruling seems to be a rabbinic enactment, and thus cannot be repealed unless done so by a court of greater stature.³⁴ Nevertheless, from *Rosh* and *Shulchan Aruch*, it is clear that this enactment was not meant to be overprotective, but rather to rule out an actual risk. It would seem logical that this enactment was never meant to apply to cases where the infant was never categorized as dangerously ill.

The comments of *Rashba* also indicate that the seven-day waiting period is an actual health concern. The *Gemara*, *Yevamot* 71b, implies that if the infant suffers from pain in his eye, one needs to wait only until the pain subsides; not seven days. *Rashba*, *ad loc.*, *s.v. me-ha de-Rav Papa*, distinguishes between fever and eye pain by noting that fever is an illness, and thus warrants a seven day waiting period, whereas eye pain is not an illness and does not mandate waiting seven days. However, since an optic ailment may nonetheless cause a complication in the circumcision, one must, therefore, wait until the risk has dissipated.³⁵

The distinction between illnesses that require a seven-day waiting period and mere complicating factors that do not, is based on what was deduced from *Rosh* and *Shulchan Aruch*. When the circumcision is delayed due to illness, there is some doubt as to the

R. Moshe Pirutinsky, Sefer ha-Brit, 262:73.

See *Teshuvot Binyan Tzion*, no. 87, who assumes that the requirement to wait seven days is of Biblical origin. Therefore, if one circumcises an infant within the seven days, it is as if he was circumcised before the eighth day of his life, in which case, according to some authorities, one is required to perform another token circumcision in the proper time. *Teshuvot Beit Yitzchak*, II no. 91 disputes this position and assumes that the requirement to wait seven days is rabbinic in nature and if one didn't wait, the *mitzvah* is nonetheless fulfilled. See also *Avnei Nezer*, *Yoreh De'ah*, no. 326 who takes a compromised position. He assumes that if the circumcision is performed within the seven days, the *mitzvah* of circumcision on the eighth day is not fulfilled, but the general *mitzvah* is fulfilled and there is no need for another circumcision. See *supra*, note 14.

Incidentally, Rashba in giving examples of illnesses that don't require waiting seven days, mentions the *tinok ha-yarok*. It is clear from Rashba that yarok was not considered an illness but rather a risk to the infant, if circumcision were to be performed on him. Rashi, *Shabbat* 134a, *s.v. le-karchei*, also seems to be of this opinion. Rashi comments that the *tinok ha-yarok* is at risk. *Teshuvot Maharatz Chajes*, no. 139, deduces from Rashi that the *tinok ha-yarok* is not ill but rather at risk should a circumcision be performed on him. This is in line with Rashba in his understanding of the *tinok ha-yarok*.

well being of the infant. Therefore, a seven-day waiting period is mandated. However, if the circumcision is postponed due to a condition that is not inherently dangerous, but may lead to a risk in the actual circumcision, there is no need to wait beyond the duration of the risk factor. Based on this explanation, one can understand that the postponement of circumcision of an infant with an illness is because he is labeled as a choleh. In this situation, there exists a rabbinic prohibition to perform circumcision for the next seven days. However, the postponement of circumcision of an infant with a complicating condition is not due to any rabbinic enactment but is contingent on practical health concerns. The tinok ha-yarok is not excluded from circumcision based on any rabbinic enactment, but rather based on the assumed medical advice of the times. Today, when medical advice does not consider the yellowness to be a cause for much concern, there is no need to postpone the circumcision.

Furthermore, it is possible that Shmuel's ruling does not include all forms of illness. Teshuvot Chatam Sofer, VI, no. 64, writes that circumcision may be performed on a treifah, 36 mesukan 37 and gosses.³⁸ Minchat Yitzchak, V, no. 11, questions this ruling based on the fact that it seems to contradict Shmuel's ruling. He therefore understands Chatam Sofer as saying that when there is no known cure for the infant, Shmuel's ruling does not apply. However, the simple understanding of Chatam Sofer's opinion is that an infant is not labeled as a choleh unless his illness does not allow for circumcision. If the infant is ill but the circumcision will have no effect on his overall health, there is an obligation to perform the circumcision at its proper time. Ostensibly, Chatam Sofer would allow circumcision even in cases of severe hyperbilirubinemia, where the infant clearly has some disease, as long as there is no actual risk in performing the circumcision. Although there are authorities who dispute the position of Chatam Sofer, 39 his position

An individual afflicted with a disease such that his life expectancy is less than one year from contraction of the disease.

An individual with a treatable life threatening disease.

³⁸ Gosses can be roughly defined as an individual who is expected to die at any moment. See *Encyclopedia Talmudit*, V, 393.

Teshuvot Divrei Malki'el, II, no. 131, Iggerot Moshe, Yoreh De'ah, II, no. 121. Minchat Yitzchak also assumes that even if Chatam Sofer's opinion was to be understood like

can certainly serve as a mitigating factor favoring leniency in a case of physiological jaundice.

Practice Parameters

If one may circumcise an infant with physiological jaundice, one must examine the *halachic* standards involved in diagnosing an infant as having physiological jaundice as opposed to pathological jaundice. A diagnosis of physiological jaundice is usually based on a combination of ruling out hemolytic disease in conjunction with the assessment of the overall health of the infant and the direction of bilirubin levels. Testing for the rarer causes of jaundice is not encouraged by the American Academy of Pediatrics. Infants with higher levels of bilirubin are closely monitored. An active search for a cause does not begin until the infant has been categorized as having severe hyperbilirubinemia. Therefore, the ability to definitively rule out pathological jaundice is impractical by day eight. One can then question the efficacy of the diagnosis of physiological jaundice from a *halachic* perspective being that probability is not followed in life and death matters.

The principle that probability is not followed in life and death matters, does not require one to rule out every possibility. Those who dispute the opinion of Maharam Schik,⁴² assume that there is a critical point where one distinguishes between life saving acts and overcautiousness. *Halachic* authorities have drawn this distinction both quantitatively and qualitatively.

The Gemara, Shabbat 45a rules that one may rely on a certain rejected opinion in a case of dire need. Rashi, ad loc., s.v. be-she'at ha-dechak, writes that the dire need to rely on this opinion, is a need to prevent danger. Teshuvot R. Akiva Eger, no. 60, notes that Rashi can't be referring to a real danger, for if it were a real danger, any prohibition can be violated and there is no need to rely on a rejected opinion. Rather, the danger must be a remote danger

the simple understanding presented above, it certainly would not be considered as the mainstream opinion.

⁴⁰ Phyllis A. Dennery, Daniel S. Seidman and David K. Stevenson, "Neonatal Hyperbilirubinemia", *New England Journal of Medicine* 344 (2001): 581-590.

Thomas B. Newman and M. Jeffrey Maisels, "Evaluation and Treatment of Jaundice in the Term Newborn: A Kinder, Gentler Approach", *Pediatrics* 89 (1992): 809-818.

⁴² See *supra*, notes 27 and 28.

which wouldn't warrant violation of any prohibition and therefore, there is need to rely on this opinion. R. Eger claims that the type of danger discussed is one "that is so remote as one in a thousand." The term "one in a thousand" is a borrowed term⁴³ and does not seem to represent a rigorous defining point between real danger and remote danger. Nevertheless, this number does give a quantitative guideline as to what is defined as remote danger. Other authorities⁴⁴ who follow this line of thought don't give any number in distinguishing between real danger and remote danger.

Teshuvot Binyan Tzion, no. 137 also assumes that the principle that probability is not followed in life and death matters, doesn't apply to all situations. He claims that if one were to be concerned about every possibility, one would always have the right to construct weapons on Shabbat out of concern that he might be attacked. Therefore, he concludes that the principle that the majority is not followed in matters of life and death is limited to situations where the danger is already present. Teshuvot Chatam Sofer, Yoreh De'ah, no. 336, shares a similar opinion on this matter. Chazon Ish, Ohalot 22:32, explains that there is no fundamental difference between present danger and non-present danger. Rather, the distinction is between danger that arouses public concern and danger that does not.⁴⁵ The parameter given by these authorities is a qualitative definition of choleh.

With jaundice, if one were to define a *choleh* quanitatively, it is difficult to prove that the probability an infant diagnosed as having physiological jaundice is at less than 0.1% risk for disease. However, the risk is somewhat close to that number.⁴⁶

Job 33:23. Many authorities borrow this term as an expression for a remote possibility. See, for example, *Maharik*, no. 185 and *Teshuvot Radbaz*, no. 526.

Teshuvot Torat Chesed, Even Ha'ezer no. 44, Teshuvot Achi'ezer, I, no. 23.

Chazon Ish writes that any danger in which the shofar is sounded to arouse public prayer, is considered a real danger for these purposes. This parameter is easily applicable to plagues and other contagious diseases where there is a concern for the welfare of the whole community. When an individual is ill, it would seem that Chazon Ish would use the same model, but on a smaller scale. If there is a concern among family members, one can then be considered a choleh. However, if the condition is such that there is no concern even among family members the individual is not a choleh.

⁴⁶ Phillip Rosenthal, personal correspondence. Dr. Rosenthal is Professor of Pediatrics and Surgery, Director of Pediatric Hepatology and Medical Director of the Pediatric Liver Transplant Program at University of California, San Francisco. He has written numerous articles on hyperbilirubinemia.

Furthermore, even if one were to assume one in a thousand as a halachic reference point, one still must define what is considered "one in a thousand." It would seem that the one in a thousand is defined by one in a thousand infants diagnosed with physiological jaundice who are at risk of death or serious injury from the resulting circumcision. This is in contrast to defining the subjects as one in a thousand infants diagnosed as having physiological jaundice are at risk for disease. Even if one were to reject Chatam Sofer's opinion and prohibit circumcision on a *choleh*, the definiton of choleh does not extend to everyone with a slight possibility of endangerment. This is evident from the statement of Tosafot, Pesachim 46b, s.v. Raba. Tosafot claims that one may not violate Shabbat even though his activities may be useful for a choleh, because a *choleh* is not at all common. Certainly, there are plenty of people who are at more than 0.1% risk of disease, and nevertheless Tosafot doesn't define them as cholim.⁴⁷ To define oneself as a choleh there is a different parameter. This parameter may very well be defining a choleh qualitatively. In this respect, R. Eger most likely agrees with Teshuvot Binyan Tzion. Therefore, an infant diagnosed as physiologically jaundiced, where there is no concern on the part of his family members, would not be considered a choleh.

One then must define the point at which an infant with jaundice would qualitatively be considered a *choleh*. The American Academy of Pediatrics has given guidelines as to how to manage hyperbilirubinemia.⁴⁸ The administering of phototherapy, treatment

⁴⁷ See Bernard Guyer et al., "Annual Summary of Vital Statistics 1997", Pediatrics 102 (1998): 1333-1349, which shows positive trends in the decrease of the infant mortality rate. An all time low of 7.1 deaths per 1000 births was reached. Throughout history, infants were at risk of death at levels much greater than 0.7%. Nevertheless, circumcisions were performed routinely despite the fact that was a slight chance of death for the infant. The possibility that every infant had the status of choleh was never entertained. See, however, Teshuvot Zekan Aharon, I, Yoreh De'ah, no. 56, who writes that every circumcision entails a certain risk, and nevertheless, the Torah requires one to take that risk. The only situation in which risk is a factor, is a situation where the infant is at a higher risk than other infants.

American Academy of Pediatrics, "Practice Parameter: Management of Hyperbilirubinemia in the Healthy Term Newborn", *Pediatrics* 94 (1994): 558-565. For an infant 25-48 hours, phototherapy should be considered for total serum bilirubin (TSB) levels greater than or equal to 12. For TSB levels greater than or equal to 15, phototherapy should be implemented. For TSB levels greater than or equal to 20, an exchange transfusion should take place. For an infant 49-72 hours,

of hyperbilirubinemia through exposure to various lights, does not seem to be a valid defining point of a *choleh*. Phototherapy is given as a precautionary measure in order to prevent higher levels of hyperbilirubinemia.⁴⁹ Any infant who is monitored carefully will be given phototherapy well before the point where there is an actual risk. If phototherapy is ineffective, the infant is given a blood exchange transfusion. His entire blood supply is replaced with fresh blood. This would certainly seem to define the infant as a *choleh*. However, the extremity of the transfusion is such that it would place the infant in the category which requires a seven-day waiting period until the circumcision may be performed.

Conclusion

Many arguments have been presented showing circumcision may be performed on an infant diagnosed with physiological jaundice. The purpose of this article is not to render any halachic decision, but rather to elaborate on the opinion of those who allow circumcision to be performed on an infant diagnosed with physiological jaundice. A Rabbi should be consulted on any halachic matter discussed in this article, certainly on issues that relate to pikuach nefesh. Additionally, should one assume that a circumcision may be performed on an infant with physiological jaundice, one must ensure that there is no indication of pathological jaundice. This determination must be made by a qualified physician and with the approval of the mohel. The issue of circumcising a jaundiced infant must be approached with great sensitivity regardless of the position one takes on the matter.

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phototherapy should be considered for TSB levels greater than or equal to 15. For TSB levels greater than or equal to 18, phototherapy should be implemented. For TSB levels greater than or equal to 25, an exchange transfusion should take place. For an infant 72 hours and older, phototherapy should be considered for TSB levels greater than or equal to 17. For TSB levels greater than or equal to 20, phototherapy should be implemented. For TSB levels greater than or equal to 25, an exchange transfusion should take place.

Avraham Steinberg, "Tzahevet ha-Yilud", in Encyclopedia Hilchatit Refu'it, ed. A. Steinberg, IV, (Jerusalem, 1994): 791-799, makes a similar point. Yalkut Yosef, Hilchot Milah, 122, agrees with Dr. Steinberg's point.