American Journal of Transplantation 2004; 4: 2007–2017
Blackwell Munksgaard

doi: 10.1111/j.1600-6143.2004.00664.x

The Case for Living Kidney Sales: Rationale, Objections and Concerns

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Currently, potential kidney transplant candidates are dying on the waiting list. One potential solution would be a regulated system of living kidney sales (with safeguards to protect the vendor). Potential objections and practical concerns are discussed.

Key words: Living kidney sales

Received 3 June 2004, revised 6 August 2004 and accepted for publication 25 August 2004

Introduction

Twenty-five years ago, immunosuppression was limited to antibody, prednisone and azathioprine; kidney transplantation was seen as a quality-of-life operation (rather than an operation that prolonged survival); average wait time for a deceased donor kidney was about 1 year and living-unrelated donor transplants were rarely done (as it was felt that the results would be similar to deceased donor transplants, and therefore, the risk to the donor was not justified).

It was in this context that living donor kidney sales were first proposed and soundly condemned. The World Medical Association declared: "The purchase and sale of human organs for transplantation is condemned" (1). The World Health Organization recommended that physicians not transplant organs "if they have reason to believe that the organs concerned have been the subject of commercial transactions" (2). The Transplantation Society stated, "No transplant surgeon/team shall be involved directly or indirectly in the buying or selling of organs/tissues or in any transplant activity aimed at commercial gain" (3). In the United States, the National Organ Transplant Act made it a federal crime to "knowingly acquire, receive, or otherwise transfer any human organ for valuable consideration for use in human transplantation if the transfer affects interstate commerce" (4).

In the last 20 years, dramatic changes have led to a reexamination of many of the policies established two or more decades ago. First, our immunosuppressive armamentarium has markedly expanded, with the introduction of numerous potent drugs for induction and maintenance immunosuppression. Simultaneously, infection prophylaxis has improved. The net result has been a remarkable improvement in both recipient and graft survival rates.

Second, considerable evidence has emerged showing that transplantation significantly prolongs patient survival, as compared with dialysis (5,6), and that survival is better with preemptive transplants, as compared with transplants after initiation of dialysis (7,8). As a consequence, more patients with end-stage renal disease (ESRD) are opting for a transplant rather than dialysis; waiting lists for deceased donor transplants have grown and the average wait for a deceased donor kidney is now over 5 years. A major parallel development has been the recognition that the outcome after living-unrelated kidney transplants is the same as after (non-HLA-identical) living-related kidney transplants (9).

The significant increase in waiting time for deceased donor transplant candidates has already had dire negative consequences for the patients. In the United States, over 6% of waiting candidates die annually (5,10). And, it is important to remember, these are patients who were declared to be suitable transplant recipients when they were listed. Because the number of waiting candidates is growing steadily, and because the number of deceased donors has barely increased (in North America) in the last decade, the waiting list and waiting times are projected to continue to increase (11). As this happens, even more candidates will die while waiting.

Possible Solutions

The obvious solution to this dilemma is to increase the number of available kidneys. In recent years, the number of living donor transplants has increased, particularly the number of living-unrelated donor transplants. Yet, this increase has not matched the markedly increased demand. And, in spite of decades of effort, the donation of deceased donor kidneys has not significantly increased. Moreover, it has recently been estimated that, in the United States, if all potential kidney donors become actual donors, the current demand would double (12).

Recently, novel attempts have been made to increase the number of available kidneys, including protocols to transplant recipients whose potential donors either are ABO-incompatible or have a positive crossmatch (13–18); protocols to use paired exchanges and list-paired exchanges (19,20); and protocols to accept nondirected donors (i.e. donors willing to donate to anyone on the waiting list) (21). However, these approaches will only provide a relatively small number of new donors.

An alternative solution would be to limit access to the waiting list. Some have argued that the organ shortage is an artificial situation created by those who have a vested interest in promoting transplants (22). But, in reality, patients with ESRD are given a choice of dialysis versus a transplant; since a successful transplant has been shown to significantly prolong survival and to improve quality of life (vs. dialysis), it is not surprising that many patients with ESRD opt for a transplant. Still, the transplant community could develop stricter criteria to limit access to the waiting list—thus decreasing waiting time and improving outcome for those fortunate enough to be listed and then transplanted. The most likely criterion for limiting access would be a lower potential for long-term success. Theoretically, this criterion would eliminate access for older candidates and those with significant extrarenal disease. But the logical extension of this argument would be to limit access to diabetics, women, children and blacks (who have worse long-term results than nondiabetics, men, adults and whites).

One More Possible Solution

One more possible solution would be to develop a regulated system for payment to living kidney donors or vendors. By 'regulated' I mean a system in which a fixed price is paid to the vendor (by the government or a government-approved agency); the kidney is allocated by a predefined algorithm similar to that used for deceased donors (and everyone on the waiting list has an opportunity to receive a vendor kidney); criteria are defined for vendor evaluation, acceptance and follow-up; and safeguards are adequate for vendor protection. In addition, as noted by Harris and Erin, the payment should not affect taxes and welfare benefits (23). Such a system would differ from the 'unregulated' markets developed elsewhere, in which the kidney may go to the highest bidder, payment is directly from the recipient, most of the payment goes to a broker and standards for donor care are few (22,24,25). Still another parallel approach would be to implement a system for payment for deceased donor organs. (Because the arguments for and against this approach differ somewhat from the arguments regarding living vendors, I will not further consider it here.)

Recently, a number of proposals have suggested living vendor payment. Some authors, to differentiate a regulated system from rampant commercialism, or to blunt the misgivings one creates by proposing payment for body parts, have used terms such as 'rewarded gifting' (26), 'ethical incentive' (27) or 'Schmerzensgeld' (compensation for personal suffering) (28). No doubt, discussing payment can be unpleasant; it would be ideal if we could increase the supply of kidneys without resorting to payment. However, after four decades of trying to increase the number of kidneys, we still are left with an ever-increasing organ shortage. It is time to discuss the potential merits and adverse consequences of sales; we should do so without creating confusing euphemisms.

Of note, much of the recent discussion about sales has occurred in the bioethics and general medicine literature (23–59), with limited participation by transplant-related personnel. Two exceptions have been the Bellagio Task Force Report on Transplantation, Body Integrity, and the International Traffic in Organs (convened under the auspices of the Center for the Study of Society and Medicine of the College of Physicians and Surgeons of Columbia University), which found no ethical principle that would justify a ban on sales under all circumstances (35), and the report of the International Forum for Transplant Ethics, which concluded that the discussion of organ sales needs to be reopened (36).

Clearly, if sales are to become a reality, transplant personnel must be participants in the process—at a minimum, in each vendor's evaluation, surgery and care. For that reason, it is imperative that we also become involved in the discussion about sales (and in the formulation of any policy). We must be knowledgeable about the arguments for and against sales and about the practical concerns that would need to be addressed before any system of sales could be established.

Importantly, as touched on above, discussing organ sales simply does not feel right; but letting candidates die on the waiting list (when this could be prevented) also does not feel right (37). In addition, it is crucial to recognize that, at least in the United States, a substantial payment ($100 000) could be made to a vendor that would, in the end, be cost-neutral to the health care system (because of the savings of a transplant over ongoing dialysis) (60).

Is there a universal answer as to whether or not sales should be allowed? To those who feel there is, Scheper-Hughes suggests that "anthropologists must intrude with our cautionary cultural relativism. Are those living under conditions of social insecurity and economic abandonment on the periphery of the new world order really 'owners' of their bodies? This seemingly first premise of Western bioethics (that the body is the unique property of the individual) would not be shared by peasants and shantytown dwellers in many parts of the Third World" (22). In light of this geographic and socioeconomic disparity, I will limit discussion to issues concerning a regulated system in the industrialized Western world. Other authors

have elucidated reasons to consider sales in other areas (33,34).

Principles of Medical Ethics

Gutmann and Land summarize the relevant moral principles used in today's medical ethics discussions (28): "a) respect for persons, including their autonomous choices and actions; b) beneficence, including both the obligation to benefit others (positive beneficence) and to maximize good consequences... (utility); c) justice, the principle of fair and equitable distribution of benefits and burdens; and d) nonmaleficence, the obligation not to inflict harm" (28). They note that these principles, when applied to specific circumstances (e.g. kidney donation), often conflict; when they do, they must be balanced against each other. As with the topic of kidney donation, these principles must be examined and potentially balanced when applied to the topic of kidney sales.

Arguments for Sales

The major pro argument is that kidney sales would help decrease the number of patients with ESRD who die on the waiting list. Sales would likely increase the number of available kidneys, shorten waiting time and improve patient survival rates.

Wolfe et al. (5), in an analysis of the USRDS database, and Schnuelle et al. (6), in a single-center analysis, clearly demonstrated the long-term survival advantage of transplant recipients over wait-listed dialysis recipients. Wolfe et al. studied the relative risk of death and survival for 46 164 patients placed on a waiting list for transplantation, 23 275 of whom received a first deceased donor transplant. Data were adjusted for age, race, sex, cause of ESRD, geographic region, time from first ESRD treatment to placement on the waiting list and year of placement on the list. They found that transplant recipients, including patients for whom transplantation was unsuccessful, had an estimated long-term mortality that was 68% lower than that of patients on the waiting list ($p < 0.001$). Given that living-unrelated donor transplant outcome is better than deceased donor outcome, the differences between transplants and dialysis would likely be even more striking if kidney donors (or, potentially, vendors) were considered.

In fact, this issue alone (i.e. patients dying on the waiting list) led Radcliffe-Richards to suggest lifting the ban on sales, unless those who oppose sales can provide any reasonable arguments justifying its continuation (37). After all, currently everyone but the donor already benefits financially from the transplant (physicians, coordinators, hospitals, recipients). Moreover, ample legal precedent already exists for sales of body parts (e.g. sperm, eggs) and for payments to surrogate mothers.

Gill and Sade argue a 'prima facie' case for kidney sales based on two claims: the 'good donor claim' and the 'sale of tissue claim' (38). The good donor claim stems from the fact that it is already legal for a living person to donate a kidney, that is, to transfer a kidney to someone else. It then follows that kidney sales should be allowed: "If donating a kidney ought to be legal, and if the only difference between donating a kidney and selling one is the motive of monetary self-interest, and if the motive of monetary self-interest does not on its own warrant legal prohibition..." The sale of tissue claim stems from the fact that "it is legal (and ought to be legal) for living persons to sell parts of their bodies (blood, sperm, eggs)". Thus, again, "monetary self-interest does not on its own warrant legal prohibition". In subsequent discussions, Gill and Sade point out that if we oppose kidney sales (vs. the sale of sperm or eggs) because nephrectomy is more dangerous, then we should also oppose kidney donation; if we oppose kidney sales because people should not sell body parts, then we should also oppose the sales of sperm or eggs (38).

Another argument in favor of sales relates to current Western philosophical principles, that is, the emphasis on autonomy. The ban on sales is paternalistic and ignores the need to respect individual autonomy. In general, with "few constraints, people make personal decisions on what they wish to buy and sell based on their own values" (38), and should be allowed to do so.

Finally, we cannot ignore this reality: although most countries in the world have laws against the sale of organs, a growing unregulated market for sales already exists—a market in which donors are often poorly evaluated and cared for, a market in which most of the payment goes to a broker (22,24,25). Eliminating the legislative ban on sales and establishing a regulated system may well eliminate or minimize the ongoing unregulated markets (30,39), thereby leaving those people who actually do sell a kidney in a better position: better paid and better cared for. As conceded by the International Congress on Ethics in Organ Transplantation (Munich, Germany, December 2002): "The well established position of transplantation societies against commerce in organs has not been effective in stopping the rapid growth of such transplants around the world. Individual countries will need to study alternative, locally relevant models, considered ethical in their societies, which would increase the number of transplants, protect and respect the donor, and reduce the likelihood of rampant, unregulated commerce" (40).

Arguments Against Sales (and Some Counterpoints)

Numerous arguments—ethical, political (public policy) and practical—have been made against sales (Table 1). Yet, it is noteworthy that the debate about sales is occurring in an environment in which we accept living donation. Any

Table 1: Arguments used to justify the ban on sales

1.	'Exploitation' of the poor
2.	'Commodification' of the body (and violation of body integrity)
3.	Harm to the vendor
4.	Lack of genuine consent
5.	Difficulty in changing the law
6.	Objections of organized religions
7.	Desire for altruistic donation
8.	Erosion of trust in the government or doctors
9.	Fears of abuse of the system

effective argument against sales must be able to justify the ban on sales while simultaneously permitting donation (37).

Strongest arguments against sales

The two strongest arguments against sales are fears about 'exploitation' of the poor and 'commodification' of the body. It would be ideal if debate about sales could take place without use of these two quoted words, because both have a pejorative connotation, making discussion difficult.

'**Exploitation of the poor**': The core of this argument is that since are involved with nephrectomy, the poor are more likely to sell a kidney than the rich, and the financial offer will override their better judgment. In a broader context, the concern is that citizens of Third World countries will become vendors for citizens of industrialized countries.

The fact that uninephrectomy has risks plays an important role in this argument. For example, it was never seriously suggested that commercialization of blood supply exploited the poor. But the risk of uninephrectomy, alone, cannot justify the ban on sales. As discussed above, if surgical risk alone is sufficient to justify a ban on sales, it should also be sufficient to justify a ban on donation. In addition, our society allows the less wealthy to take many high-risk jobs that the rich are unlikely to apply for (e.g. police officers, deep sea divers, firefighters, military 'volunteers', North Sea oil rig workers). And, we allow both rich and poor to engage in recreational activities that have considerably greater risk than uninephrectomy (e.g. smoking, mountain climbing, skydiving, bungee jumping).

Serious objections have never been raised about permitting financial incentives to encourage middle-class and upper-class people to be vendors (37,41). One possible solution to the possibility of 'exploitation' is to establish a minimum income for one to be a vendor. But, if it would be permissible for the middle or upper classes to sell a kidney, why should it not be permissible for the lower classes?

Thus, in a regulated system, the 'exploitation' argument against kidney sales becomes, in part, the argument that the poor are more likely to be vendors than the rich. The dictionary definition of exploitation is "utilization of another selfishly" (61), that is, deriving wrongful advantage from the calamity of others. A policy of organ sales would be an attempt to benefit a subset of the population (i.e. rich or poor with ESRD waiting for a transplant). However, if the vendor makes an autonomous decision and, in return, receives a substantial payment that may significantly improve his or her quality of life, we must ask, is this truly exploitation? Or, all things considered, is the notion of 'exploitation' even of moral importance in this context? As one scholar points out, "In reality, any financial transaction would seem to have effects that differentiate based on income level" (41).

Clearly, the 'exploitation' argument is not about equality. As noted by Gill and Sade, "if paying for kidneys is legalized, the ratio of poor people with only 1 kidney to rich people with only 1 kidney probably will increase" (38). This result could be seen as not being equal. But, as Gill and Sade emphasize, "the kind of equality that matters to egalitarians, however, concerns not the presence of 1 kidney vs. 2 but economic and political power. There is no reason to believe that allowing payment for kidneys will worsen the economic or political status of kidney sellers in particular or of poor people in general" (38).

In a regulated system as described above, the 'exploitation' argument is not about coercion, which is defined as "persuasion (of an unwilling person) to do something by using force or threats" (62). No potential vendor can be coerced by the opportunity to sell an organ. But when the term is (mis)used in this way, many authors argue that a payment is coercive in that it might "manipulate the victim's preferences, even if it would be rational to accept" (42) or in that "the intent of the offer is to elicit behavior that contradicts the individual's normal operative goals" (43). However, the fact of payment does not necessarily mean that the vendor's choice was not free and voluntary (37,38,41). As noted by Radin, "it is unclear why engaging in market transactions with the poor constitutes the use of coercive power, while doing so with the middle class or the wealthy is an appropriate expression of personal freedom" (44). Moreover, Harvey suggests that, first, if this 'financial pressure' is sufficient to justify a ban on sales, then psychological or emotional pressure that may occur in related donation could justify a ban on donation, and second, a ban on sales also stops potential vendors who are not financially vulnerable (45).

Cherry distinguishes between 'coercion' and 'peaceful manipulation'. Coercion violates the free choice of persons, whereas peaceful manipulation "grounds the very process of negotiation through which individuals fashion consensual agreements". Cherry argues that "to be coercive, rather than peaceably manipulative, requires showing that making such an offer places potential vendors into unjustified, disadvantaged circumstances". Financial offers may be 'seductive', but they 'are not subtle threats' (46).

Most important, the 'exploitation' argument centers on whether a regulated system of organ sales takes wrongful advantage of the calamity of others and on whether the financial offer will override the better judgment of individuals in desperate need. No doubt, a significant financial offer will provide hard choices for people in need. But there is a difference between a 'hard choice' and an 'involuntary choice'. I do not think we are willing to say that being poor removes the ability to make rational decisions (if we believed that, we would need legal guardians to protect any decision an impoverished person makes). A regulated system is not necessarily exploitive if it pays a significant amount (an amount that has the potential to make a positive impact on the vendor's life) and if it includes procedural safeguards to ensure that vendors know what they are doing and are acting voluntarily to seek their individual best. In the case of kidney sales, the system would not be seeking the typical exploiter's 'wrongful gain', but would be established to help patients in need (T. Gutmann, personal communication).

Many authors have countered the 'exploitation' argument by suggesting that the ban on sales removes one potential option for the poor, and leaves them poor; whereas if they could sell a kidney, it would give them the possibility to better their lives (37,47). Andrews notes, "Banning payment on ethical grounds to prevent [exploitation] overlooks one important fact: to the person who needs money to feed his children or to purchase medical care for her parent, the option of not selling a body part is worse than the option of selling it" (47). Thus, there is a difference between having limited options versus being able to choose rationally in one's best interests among the options available.

Most authors accept that the ideal solution to the problem of the poor being more likely to be vendors would be to end poverty. Zutlevics suggests that, rather than allowing sales, we should provide additional aid to the poor (48). The reality, however, is that no evidence suggests that poverty will disappear in the near future. And not allowing sales does nothing to eradicate poverty and has no effect on whether or not additional aid might be forthcoming. One prominent bioethicist, Veatch, once suggested that, rather than permit sales, we should prompt social change to end poverty, but he has become pessimistic about the possibility of social change and now favors sales (41). Veatch offers a different perspective, noting that 'irresistibly attractive' financial offers are not usually felt to be unethical. He asks why offers to induce consent to procure organs that are irresistible only to the poor are deemed unethical, while offers of jobs and offers of basic necessities are not. In addition, he suggests that the ethical problem is not that the offer is attractive to its recipient, as compared with the alternatives available, but "must be understood in terms of the options available to the one making the offer" (41). Veatch's original concern about sales was that the (political) decision makers could, in effect, force the poor to sell their organs by withholding alternative means of addressing their problems. He now reexamines the issue 20 years later, and concludes that our society has done little to help the poor, and with 'shame and bitterness' proposes that it is time to lift the ban on sales: "If we are a society that deliberately and systematically turns its back on the poor, we must confess our indifference to the poor and lift the prohibition on the one means they have to address their problems themselves" (41).

A final concern regarding 'exploitation' has been that, in a government-controlled single-payer system, there would, be pressure to lower the price paid for each kidney—that is, there would be institutionalized 'exploitation' (as described by Veatch, above). But, a system could be defined with safeguards to prevent such institutionalized exploitation.

'**Commodification of the body**': The second major argument against sales is that they would lead to 'commodification' of the body. Literally speaking, the definition of commodify is "to turn into a commodity" (62). Therefore, using a strict definition, the argument becomes circular. But, escaping the verbiage, the concern seems to be that a vendor will, in some way, lose human dignity and be seen as only being worthwhile as a provider of spare parts. As Sutton phrased it, "if we allow body parts to enter the marketplace, we depersonalize and devaluate ourselves" (49).

In fact, there is no evidence that sperm or egg donors, or surrogate mothers, have diminished self-dignity or self-worth. And, as noted in a detailed analysis by Wilkinson, "there is no necessary connection between the commodification of bodies or the commodification of persons" (50). He suggests that "it is not clear that organ sale is any more likely to cause persons commodification than other widely accepted practice—most notably (free) organ donation, and (paid) labor" (50). Thus, this argument against sales has tremendous emotional impact but no data to support it. As Gill and Sade state, "my kidney is not my humanity" (38); they continue, "humanity—what gives us dignity and intrinsic value—is our ability to make rational decisions, and a person can continue to make rational decisions with only one kidney".

No doubt, some of the concern regarding commodification comes from our own (industrialized Western civilization) history. Andrews notes that "some of the finest advances in society have resulted from a refusal to characterize human beings (blacks, women, children) as property", but elaborates, "I am advocating not that people be treated by others as property, but only that they have the autonomy to treat their own parts as property" (47). Just as attitudes and laws have changed regarding characterization of blacks, women, and children as property, societal attitudes are critical to the dignity of vendors. If, in a regulated system, vendors are treated as heroes who receive compensation for their pain (as suggested by Gutmann and Land) (28), and have their rights and interests protected, it

would be quite possible to sell a kidney without loss of dignity.

Implied in the concern regarding 'commodification' is the concept that 'body integrity is highly valued' (50). The fear is that vendors would have some longstanding emotional or psychological damage because of the breaks in body integrity. Wigmore et al. argue that "violation of this integrity is not well compensated for other than by spiritual/philosophical gains such as acting in an altruistic fashion" (51). But, again, little evidence supports this concept of negative violation. Surgical procedures, a direct violation of body integrity, do not usually lead to long-term psychological harm or damage to human dignity. One could argue that surgical procedures are necessary for cure of disease and this, in some way, leads to personal justification for the violation of body integrity. But, in fact, the entire field of plastic surgery requires a break in body integrity. In addition, numerous occupations and recreational activities are associated with risks to body integrity; yet, we have no compunction to limit people's involvement in these activities. And many cultures and religions throughout the world violate body integrity as part of their beliefs (e.g. piercings, male circumcision).

In reality, individuals who value their body integrity over compensation for a kidney could choose not to be vendors. Thus, it is unclear how the 'commodification' argument justifies the total ban on sales.

Harm to the vendor: A third powerful argument against sales is the (probably inevitable) death of a vendor. Currently, the mortality associated with living kidney donation is 0.03%. If vendors are screened as thoroughly as living donors, mortality would likely remain about 0.03%. So, on a purely rational level, the concern about vendor death does not differentiate kidney sales from donation. But, on an emotional level, death of a vendor 'feels' different than death of a donor. When a living donor dies, we might suggest that the death occurred while doing something 'noble'. Of course, a vendor might also have a 'noble' use for the money. However, there is no doubt that the practice of transplantation requires the goodwill of the public, and it is unclear how the press or public would react to the death of a vendor.

Similarly, the surgical and long-term risks for vendors are identical to the risks for living donors. As discussed above, if these risks alone are sufficient to justify the ban on sales, they should also be sufficient to justify a ban on donation.

Weaker arguments against sales

***Lack of genuine consent*:** Some argue that, because money is involved, a potential vendor cannot ever truly provide genuine consent. But, this argument rests on a paternalistic attitude that 'we' are best able to weigh the risks and benefits for others and, as described above, ignores a fundamental tenet of current medical practice and philosophy—autonomy. Some also argue that some potential vendors may be unable to fully understand the risks; but this also applies to living donors, and we feel capable of screening and educating them. If the fact that some potential vendors may not understand the risks justifies the ban on sales, then the fact that some potential donors may not understand the risks should justify a ban on donation.

***Difficulty in changing the law*:** Some argue that because organ sales are currently a contentious issue, politicians (always concerned about reelection) would be reluctant to propose and fight for a change in the law. Whether or not this is true, it is not an argument either for or against sales. Certainly, it was difficult to change the law to allow emancipation of women and blacks. Presumably, if polls find that the public generally supports a regulated system of organ sales, then politicians would be willing to eliminate the ban.

***Objections of organized religions*:** Almost all organized religions currently support organ donation. In Judeo-Christian culture, saving lives takes precedence over other religious laws and customs. Yet, it is unclear whether individual religious authorities would take a formal stand against sales. According to Steinberg, almost all rabbinic authorities who have expressed an opinion have stated that, from a Jewish moral point of view, there is "nothing wrong in receiving reasonable compensation for an act of self-endangerment, whereby one still adequately fulfills the most important commitment—to save life" (58).

The Catholic church has taken a somewhat mixed stance. Capaldi argues that it is morally permissible for Catholics to participate in a market in organ sales (59); he quotes Pope Pius XII as saying, "It would be going too far to declare immoral every acceptance on every demand of payment. The case is similar to blood transfusions. It is commendable for the donor to refuse recompense; it is not necessarily a fault to accept it" (63). In contrast, Pope John Paul stated, "The body cannot be treated as a merely physical or biologic entity, nor can its organs and tissues ever be used as items for sale or exchange. Such a reductive materialistic conception would lead to a merely instrumental use of the body, and therefore of the person" (64).

In a subsequent address to the Transplantation Society, Pope John Paul II stated, "any procedure, which tends to commercialize human organs or to consider them as items of exchange or trade must be considered morally unacceptable" (65).

Clearly, individuals with religious objections can choose not to be vendors. But it will require a change in the law to eliminate the ban on sales. In theory, religious belief should not determine law and public policy (38), yet strong opposition from organized religion could have an impact on political discussion and action.

***Desire for altruistic donation*:** Historically, it has been felt that donation should be altruistic. But there is no reason it must be this way. With our current practice of altruistic donation, the waiting list and resultant waiting time are getting longer every year.

If there is a market in organs, some fear that altruistic living donation may decrease. But, no evidence supports this concern (it is a hypothesis that can be tested). In fact, there are many reasons to believe that altruistic donation will continue. First, some recipients would continue to want to know their donor. As discussed below, there may be concerns about the 'quality' of vendor kidneys. Families with these concerns might opt for donation. Second, with a regulated system of sales, waiting time is likely to be reduced but not eliminated. Outcome for kidney transplant recipients is better with a preemptive transplant (7,8), so many recipients would still opt for preemptive transplants from altruistic donors. Third, potential vendors may be demographically different (e.g. older) from potential altruistic donors, providing another reason for preferring a donor (over a vendor) kidney.

Nevertheless, in some situations, a family might rather turn to a government-regulated vendor system than to a family member or altruistic friend. If so, there could be some decrease in altruistic donation (probably related to how long the waiting list is, once a vendor system is implemented). Some of this decrease may be good. First, we do not know how much coercion is involved in living-related donation; presumably a vendor system could eliminate this form of family coercion. Second, criteria for acceptance of living donors are being expanded (e.g. single-drug hypertension is allowed in some centers). An expanded-criteria donor is usually accepted only if he or she is the sole available donor for an individual recipient. A large vendor system might eliminate the need to use expanded-criteria donors. Clearly, whether sales will result in a significant decrease in donation needs to be studied.

If there is a market, there is also a concern that deceased donation may decrease. But there will continue to be a great need for livers, hearts, lungs and pancreases, all of which could never be supplied by vendors. However, it does need to be recognized that, if we eliminate the ban on organ sales, families of deceased donors may also lobby for a payment.

Erosion of trust in the government or doctors

(i) Government. If the government (or its appointed agency) is the sole buyer of kidneys (in a regulated system), there is concern that the government will be seen as preying on the poor rather than providing a safety net (51). And, in fact, one function of the government (providing for the needy) would be in direct conflict with the other (buying kidneys). But, in reality, government agencies often have competing priorities (e.g. consumer advocacy vs. environmental protection, development of the economy vs. raising the minimum wage, minimizing dependence on foreign oil vs. preserving the country's wilderness). And, the goal of purchasing kidneys would be to save lives—certainly an acceptable goal for the government. It is not unreasonable to believe that a regulated system, with appropriate screening, good postoperative follow-up, and a substantial payment to the vendor, could also be managed with care and dignity so that respect (for either the government or the vendor) does not suffer.

(ii) Doctors. It is also argued that allowing organ sales would disrupt the traditional doctor-patient relationship. But, there is no evidence to suggest that sales would have any negative impact on either patient care or a patient's (vendor's) expectations of the physician. No evidence suggests that medical care for surrogate mothers (analogous to vendors) has differed in any way from the current standard of practice. Presumably, in a regulated system, vendors would be given the same care as current living donors (and better care than current vendors in unregulated markets).

***Fears of abuse of the system*:** It is possible that potential vendors will lie about their health care status and risks, or alternatively, that physicians (who are paid when a transplant is done) will relax acceptance criteria. But, of course, such fears do not differentiate sales from living donation. And, the possibility of abuse is not used as justification for a ban on numerous other priorities (e.g. paying taxes, driving powerful cars).

Some Practical Considerations

Many practical considerations are involved in establishing a regulated vendor system (Table 2). Each will require considerable discussion. Not being able to address such considerations could alone justify not setting up a system.

Determining criteria for vendors

(i) Should there be a minimum age restriction? In North America, 18-year-olds can join the military, vote and be kidney donors. However, in most states, young adults cannot legally drink until age 21 (in part because a sense of mortality is not developed until at least the mid-20s). Car rental companies, recognizing the typical poor driving record of so many young drivers, have different restrictions and rates for those under age 25. Given the many issues associated with being a young adult, it might be reasonable to set a higher minimum age for vendors than currently exists for donors.

Table 2: Some practical considerations

1.	Determining criteria for vendors
i.	Minimum age
ii.	Defined geographic area
2.	Providing long-term health care for vendors
3.	Following vendors long-term
4.	Distributing payment
5.	Verifying health status of vendors
6.	Handling logistics
7.	Designating price
8.	Drawing the line at kidneys

(ii) Should vendors be limited to a defined geographic area? A major concern of opponents to sales is that it would lead people from 'poor' countries to come to 'rich' countries to sell their kidneys. A related concern is that financial compensation would be different between countries. Harris and Erin suggest that one solution would be to confine the marketplace to a geographic area (a country or a group of countries) in which vendors or families of vendors could also benefit from a policy of organ sales (23).

Yet, if we accept the concept of sales, is it really wrong to prevent vendors to come from poor countries and provide kidneys to those in need (rich and poor) in richer countries? It could be argued that sales would allow a significant redistribution of wealth, and that it certainly could improve the lifestyle of the vendor. (It would be interesting to know whether those opposed to sales check the labels on their clothes purchases to determine where they were produced and whether 'sweatshops' were involved.)

Another way to limit an influx of potential vendors from poor to rich countries would be to only pay if a kidney is used. A potential vendor would likely incur some expenses in getting to a transplant center. Obviously, if the candidate becomes an actual vendor, the compensation could more than cover those expenses. Thus, it is likely that the expenses of getting to a transplant center (once for the evaluation and then for the nephrectomy) might minimize the number of potential vendors crossing from one country to another. On the other hand, if a regulated system were established, it might not be surprising to see local 'screening' clinics signing up vendors in poor countries. Theoretically, the vendor could pay the clinic after the nephrectomy.

Providing long-term health care for vendors

Although the risks of uninephrectomy are small, they are not zero. In a regulated system, in a country with a universal (national) health plan, long-term care can be assured. In other countries, the payment to the vendor might include payment for health insurance. However, this would be difficult to organize if the vendor came from a different country.

Following vendors long-term

Clearly, if a vendor system (or a pilot trial) were initiated, it would be important to study long-term outcome. Again, this would be difficult if a vendor came from another country.

Distributing payment

Our previous study suggested that, in the United States, a payment of about $100 000 would be potentially cost-effective (some of this could be used for life and health insurance and to fund long-term follow-up) (60). It might be reasonable to pay this in a lump sum to U.S. vendors. But what if a regulated system were established that permitted vendors to come from other countries? Such vendors may have no experience in managing large sums of money; appropriate local facilities such as banks might not be available.

In addition, regulation would have to be developed regarding whether or not payment would affect welfare benefits, taxes or whether it was subject to attachment by other concerned parties (e.g. creditors, ex-spouses).

Verifying health status of vendors

This is both an ethical and practical issue. From a practical perspective, potential vendors could be evaluated twice (e.g. viral studies), with a minimum 6-month interval between evaluations. Although this would not guarantee safety, it would minimize the risk. It could be made a federal offense to lie about health risks when undergoing vendor evaluation (but such a statute would have little impact on candidates from other countries). Potential recipients could be informed about the limitations of the evaluation process (similarly, some limitations apply to the current donor pool) and sign an appropriately developed 'informed consent' form.

Handling logistics

Numerous logistical issues would have to be resolved before a system of sales could be implemented. For example, where would a potential vendor go to apply or to be evaluated? Who would do the evaluation? Would only local potential recipients be considered or would 6-antigen matches get priority? Would vendors have to travel to a recipient's center? Who would be responsible for long-term follow-up?

Designating price

Should there be a fixed price? If we accept sales, why not have the kidney go to the highest bidder? There are many advantages to a government-sponsored regulated system with a fixed price paid to the vendor. The most important is that all potential recipients would have access to vendor kidneys. If some form of bartering or a 'to the highest bidder' system were established, the rich would clearly benefit. Other advantages of a government-sponsored regulated system are that it could ensure adequate donor

evaluation and mandatory informed consent, and could guarantee that the payment goes to the vendor (rather than a broker).

In addition, could there be a different price for 'old' versus 'young' donor kidneys, or for kidneys whose potential outcome is significantly worse? This is a complex issue that could be potentially resolved by open discussion.

Drawing the line at kidneys

If we establish a regulated system for kidney sales, should we have a system for sales of a liver lobe, a lung lobe or a partial pancreas? Could a vendor return repeatedly for sale of more body parts? Living donor liver, lung and pancreas transplants have been done successfully. But for each, the potential donor morbidity is higher than for uninephrectomy. In addition, considerably more information is available on long-term follow-up after donor uninephrectomy (vs. after living liver, lung or pancreas donation). For those reasons, it could be argued that, at this time, a vendor system should be limited to kidneys.

Discussion Is Occurring in the Wrong Places

Currently, the debate about sales is taking place in the bioethics and general medicine literature, with limited involvement by transplant-related personnel. Most importantly, the general public has not been involved. Interestingly, two surveys have suggested that the general public is much more willing than the medical community to accept sales. In 1991, Kittur et al. found that 52% of the general public favored sales (68% of those 18–34 years old; 49% of those 35–54 years old; 31% of those $\geq$55 years old) (66). Subsequently, Guttman and Guttman found that 70% of the general public and 51% of medical students, but only 25% of surveyed physicians and nurses, favored sales (67).

Those survey results obviously suggest that attitudes to sales may differ between the general public and the medical community. This is an important consideration. In discussing bioethics, the opinions of medical personnel are usually included—but as only one of many communities with differing perspectives. Organ sales, however, could not take place without the participation of medical and surgical personnel.

One Final Point

The issue of kidney sales is not a hypothetical ethical fine point, but rather affects the lives of people worldwide. While thinking of balancing moral principles (28), any individual must question what their personal actions would be, should the need arise. Leon Kass writes, "I suspect that regardless of all my arguments to the contrary, I would probably make every effort and spare no expense to obtain a suitable life-saving kidney for my child—if my own were unusable. . . . I think I would readily sell one of my own kidneys, were its practice legal, if it were the only way to pay for a life-saving operation for my children or my wife" (56).

Conclusion

How should this topic be approached? One option would be to accept that organ sales are illegal, that the issues are complex and feelings are strong, and to end discussion. But this leaves us with the continually expanding waiting list, the probability of worse outcomes for future patients with ESRD (because of a longer wait for a transplant) and the probability of an increasing number of patients dying while waiting for a transplant.

A second option would be to open discussion about the possibility of establishing a regulated vending system. Such a discussion needs to address two (separate but intertwined) questions: (i) could a regulated vending system ever be ethically supported, and (ii) if so, under what circumstances? Important practical considerations must be resolved before such a system could be established.

Acknowledgments

I would like to thank Mary Knatterud for editorial assistance and Stephanie Daily for preparation of the manuscript. In addition, Carl Cardella, Thomas Gutmann, Jeffrey Kahn and Sandy Matas took the time and effort to read and critique multiple drafts of this manuscript; I greatly appreciate their critical comments.

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