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**A Study of the Mediumistic Surgery
of John of God**

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Abstract

“Mediumistic surgery” is a popular form of complementary medicine that faces challenges regarding its authenticity, although it has received little scientific evaluation. We conducted a preliminary investigation into the veracity of mediumistic surgeries performed by the healer “John of God” in Brazil, as well as the specific procedures involved in his practice. Thirty surgeries were observed and videotaped; tissues were removed and analyzed in 10 of them. . Aspects related to antisepsis and analgesia also were investigated. John of God actually made incisions in the skin, as well as occasionally scraping the cornea, usually without pain and without the apparent use of anesthetics or antiseptics.

In the three days of follow-up we failed to identify infection in any of the surgical sites. Tissues and cells were compatible with their site of origin and, apart from a 210 gram lipoma, without discernible pathology. Further studies are necessary, especially regarding efficacy, the reported analgesia and the lack of antiseptic.

Non-orthodox treatments are referred to by many names including *alternative*, *complementary*, *unconventional*, and *integrative* medicine. Regardless of what they are called, these practices are widely used by patients around the world (Eisenberg et al. 1998; Lin 1998). In 2004, the National Center for Health Statistics reported a survey involving a national sample of 31,044 adults in the United States (US). It showed that 62% of the US population had used some form of complementary and alternative medicine (CAM) during the past 12 months. Examples would be the utilization of traditional Chinese, Tibetan, or Ayurvedic medicine, chiropractic, osteopathy, naturopathy, homeopathy, and various types of bodywork and massage. The use of CAM was more frequent among women, people with higher levels of education, and those who had been hospitalized in the past year (Barnes et al. 2004). In Brazil, an investigation found that 89% of cancer patients had used some form of CAM (Samano et al. 2004). Despite the widespread use of CAM, health professionals are usually unfamiliar with these techniques (Lin 1998) and patients frequently do not tell their physicians about their use of CAM (Eisenberg et al. 1998; Samano et al. 2004).

This widespread reliance on untested therapies raises serious concerns about the impact of these practices on public health, especially when one considers the fact that health professionals are usually uninformed about CAM and their patients' use of them. Potentially effective therapies may have been underutilized; by contrast, inefficient and even deleterious practices probably have been used by millions of patients globally (Lin 1998; Barnes et al. 2004; Kronenberg et al. 2005). With this situation in mind, there is an urgent need for rigorous studies investigating the available CAM procedures (Jonas 1998). According to the US National Center for Complementary and Alternative Medicine, "the list of what is considered to be CAM changes continually, as those therapies that are proven to be safe and effective become adopted into conventional health care and as new approaches to health care emerge" (NCCAM 2004,1).

Many CAM procedures involve spiritual beliefs and thus are referred to as “spiritual healing,” a type of intervention involving alleged otherworldly entities or energies (e.g., spirits, saints, “energy fields”). In fact, the most widely used form of CAM is praying for specific health outcomes (Barnes 2004; Samano et al. 2004). Spiritual healing also includes laying on of hands, meditation, religious rituals, and other procedures (Barnes 2004). Reports of spiritual healing practices have persisted since ancient times and have emerged from various cultural and religious traditions, including the Christian historical record of the life of Jesus, which involves many events and practices resembling CAM (Hodges and Scofield 1995; Benor 2000).

In spite of being such a popular and ancient practice, spiritual healing remains largely ignored by the scientific community (Clague et al. 1983). However, recently there has been increased interest in the subject among scientists and health professionals (Hodges and Scofield 1995). Much of this interest is due to research revealing the effectiveness of spiritual healing and other forms of CAM, as well as their increased utilization (Freeman 2004).

One of the most interesting and controversial forms of spiritual healing is so-called “mediumistic surgery.” During this procedure, healers claim to be under the influence of spiritual entities and appear to use knives or other sharp instruments to make incisions in patients' bodies, extract tissues, scrape eyeballs or perform other unconventional and disconcerting maneuvers. Usually these “surgeries” are performed in circumstances that expose the patients to many sources of infection: surgeries are performed in open areas or in dirty rooms with hundreds of people closely observing. Many times, mediumistic surgeons do not wear gloves, do not wash their hands before or between surgeries in rapid turnovers, do not clean the skin to prepare for the surgery, and use dirty or rusted tools. Many observers claim that these procedures are performed with no anesthetic or antiseptic procedures yet result in no pain or infection (Fuller 1974;

Cumming and Leffler, 2007).

Mediumistic surgeries seem to be a phenomenon that gained worldwide attention during the 20th century. In the middle of the last century, some mediumistic surgeons from Brazil and the Philippines became well known, if not notorious. These practitioners commonly treated hundreds to thousands of patients each day, many of whom had come from other countries (Fuller 1974; Krippner and Villoldo 1987; ACS 1990; Dein 1992; Estado de Minas 1995; Lieban 1996; Omura 1997).

Currently, the most famous mediumistic surgeon in Brazil, the United States and probably in the world is João Teixeira de Farias, known as “John of God,” about whom several books have been published (see Pellegrino-Estrich 1997; Ravenwing 2002; Bragdon 2002; Cumming and Leffler, 2007). In 2005, ABC devoted a one-hour program during prime time to John of God. The program observed that “for nearly 30 years, millions have visited” him (ABC 2005). Soon after the program aired, a “skeptical” periodical published a paper with a strong criticism of this program, alleging bias and a failure to include alternative explanations for the phenomena (Randi 2005).

It is not unusual for CAM to raise controversy, some of it informed and some of it prejudicial (Ernst 1995). If we understand it according to the definition offered by *Webster's Comprehensive Dictionary* (1996) “prejudice” is “a judgment formed beforehand or without due examination.” With this definition in mind, we can safely claim that there is an abundance of prejudice for and against CAM. These biases are even more acute regarding spiritual healing, especially mediumistic surgery, which starkly defies mainstream Western medicine. Undoubtedly, there are many cases of charlatanism and trickery; however, it is necessary to determine if all mediumistic surgeries are fraudulent or if they have a value that deserves more consideration. Healers often complicate difficulties with scientific investigation by refusing to allow scientists to submit material supposedly extracted from patients to laboratory examination (Meek

1977; American Cancer Society 1990). In some of the cases where samples could be evaluated, the analysis of blood and tissue purportedly removed from patients was demonstrably non-human in origin (Lincoln and Wood 1979; Clague et al. 1983; American Cancer Society 1990; Dein 1992).

Opinions vary regarding not only the authenticity of mediumistic surgery, but also its efficacy (Nolen, 1974). For example, the American Cancer Society (1990, 184) published a paper on mediumistic surgery concluding that there was no evidence to suggest that the procedure resulted in objective benefits for the treatment of any medical condition. However, only Filipino mediumistic surgeons were cited in this article, which generalized to the claim that all cases of mediumistic surgery involved fraud and trickery. Finally, the paper's conclusion “strongly urges individuals who are ill not to seek treatment by psychic surgery.” (1990, 184) A similar warning was issued ten years later by the BC Cancer Agency (2000). On the one hand, medical agencies have good reason to be concerned with the health of vulnerable patients; on the other hand, these statements have not been made on the basis of field research or first-hand observation.

A number of other authors have been less negative regarding the efficacy of mediumistic surgeries. Dein (1992) found that these treatments reduced suffering and increased patient satisfaction, perhaps as a placebo, but he was not sure if they impacted the underlying disease. There are also several case reports in which data were gathered in uncontrolled conditions, concluding that spiritual healing may have cured severe organic diseases (McClenon 1993; Savaris 1995) and some controlled studies that suggest that it could have produced effects not attributable to psychological suggestion (Dossey, 1993; Hodges and Scofield 1995; Benor 2000).

Krippner (1976) stated that “the controversial nature of psychic surgery cannot be resolved because it is still at the level of uncontrolled observation”; regretfully, this is still true. Open-minded but scientifically rigorous studies are crucial to determining

the nature and effects (positive and negative) of mediumistic surgery.

Health professionals also have been concerned about potentially adverse effects of other types of CAM but unfortunately there is a lack of solid documentation regarding the risks of CAM (Kronenberg et al. 2005). A survey involving 161 Australian oncologists indicated that psychic surgery was among the CAM that these physicians reported knowing the least, but it was also considered to be among the most likely to be harmful to patients, a seeming contradiction (Newell and Sanson-Fisher 2000).

The primary objective of clinicians and health researchers should be to help patients to keep or restore an integrated pattern of health. When using the term “integrated,” it is necessary to keep in mind the broad definition of health provided by the World Health Organization (WHO): “a state of complete physical, mental, and social well-being and not merely the absence of disease, or infirmity” (WHO 1948). Given that, it is necessary to study CAM practices and evaluate their impact on people’s health. Health professionals should be informed about the optimal conditions for administering CAM and supplied with the criteria for assessing them (Lin 1998). Procedures that promote health should be encouraged and those that are futile or harmful should be exposed and proscribed (Krippner 1993; Hodges and Scofield 1995).

Moving more quickly than mainstream health professionals, patients seem to have already built the bridge between CAM and mainstream Western medicine. Most of the US population reported using CAM in conjunction with conventional medical treatments rather than as an alternative to them (Barnes et al. 2004). But in recent years, many mainstream health professionals have started to close the gap. Joyce (1994, 1279-80) interpreted the foundation of departments of CAM in medical schools around the world as a process “of domesticating as scientific knowledge much that was once regarded as too unruly to be tamed: What was 'philosophy' is now experimental science.”

This same author also claimed that orthodox medical research has its own methodological weaknesses and that “it is unreasonable to demand higher standards of proof from complementary than from orthodox medicine,” a perspective also taken by Kleinman (1988) and West (2006) in noting the tendency of Western medicine to dismiss indigenous medical practices.

Given the current interest and the lack of scientific studies, we have undertaken an exploratory investigation of the mediumistic surgeon, John of God. The main purpose of the present study was to examine the claims by proponents and practitioners of mediumistic surgery of its curative powers and authenticity. The specific aims of this investigation were as follows:

- To determine whether the surgeries were actual surgical interventions.
- To perform histocytopathological analysis of the tissues supposedly extracted from patients.
- To investigate the use of antiseptic and anesthetic procedures and the occurrence of pain or infection.

Methods

João Teixeira de Farias was born in 1942 in Brazil. He still works on his farm and has only a rudimentary education. Since early adulthood, he has served as a so-called “spiritual healer” and became known as *João de Deus* (John of God). In the last three decades, he has attended to patients in a small town named Abadiânia, located in the central part of Brazil, 70 miles from Brasilia (Brazil's capital). Mediumistic surgeries and other healing practices are performed at *Casa Dom Inácio* (the House of St. Ignatius de Loyola) an ecumenical temple entirely devoted to these treatments. At the time of this study (1995), John of God worked three days a week as a mediumistic sur-

geon, seeing hundreds of patients each day. Patients are said to come not only from all parts of Brazil, but also from the Americas, Europe and Asia (Savaris 1995).

The first two authors (A. Moreira-Almeida and T. Moreira de Almeida) obtained permission from the directors of Casa Dom Inácio to perform the investigation and observe the treatments between August 16th and 18th, 1995. Investigation *in loco* lasted just three days because, at that time, John of God worked as a mediumistic surgeon three days a week and patients who came to treatment only stayed in the town these three days. The last author (Krippner) visited Casa Dom Inácio in 2005, making his own observations. The main findings were previously published in Portuguese (Almeida et al. 2000). In order to broaden access to the investigation of John of God, who has become better known globally, despite a scarcity of scientific study, we decided to update and write this paper in English.

We focused our investigation on the most extreme type of mediumistic surgery, that is, when the mediumistic surgeon allegedly makes incisions in the skin and/or extracts tissues from a patient's body. This type of procedure allowed us to make first-hand observations and to collect specimens for histocytopathological analysis. Although this was not the most frequent kind of procedure undertaken by John of God, we chose it because it was more relevant to our objectives, namely to offer some evidential assessment of John of God's procedures.

Procedures

- All those patients who were submitted to mediumistic surgeries and whose tissues were allegedly removed were selected for this investigation.
- All patients read and signed an informed consent form.

- All surgeries were recorded with video and photographs.
- During the observations we (AMA and TMA) paid special attention to whether John of God used any anesthetic or antiseptic procedures.
- All tissues removed were collected in a formaldehyde solution and the results were deposited in containers for microscopic analysis. These materials were submitted for histocytopathological analysis at the Laboratory of Pathology of Federal University of Juiz de Fora (UFJF), Brazil by the third author (AMG).
- After the surgery, a clinical examination, including anamnesis and physical examination focusing on the surgical wounds, was performed (by AMA and TMA) while the patients were in the recovery room. Certain questions were asked in all of the interviews. These questions identified: religious affiliation, educational level, current medical diagnosis, past and current treatments, and pain during the mediumistic surgery. Patients were also questioned about how they found out about John of God and whether they had arrived believing that he would help them. The investigators also examined each patient's surgical wounds just after the surgery and up to three days later.
- We also observed the environment where the surgeries were performed: light conditions, cleanliness, how many subjects were present observing the surgeries and the emotional attitudes of those individuals undergoing the surgeries.
- Some other factors were investigated: whether fees were charged, evidence of financial exploitation, and whether patients were counseled to continue or abandon their current medical treatments.
- Six months later, follow-up questionnaires were sent to all patients whose tissues had been submitted to histocytopathological examination.

Results

Volunteer staff and patients who had visited Casa Dom Inácio prior to the investigation reported that the three days we observed were similar to any other day of treatment. They reported that our presence did not seem to alter the proceedings of Casa Dom Inácio in any important way.

No fees were charged for the treatment and no one solicited donations. Casa Dom Inácio offers a free bowl of soup to anyone who wishes to eat it (usually, hundreds of people a day). A bottle containing a liquid compound made from herbs and roots (primarily flowers from passion fruit plants) and prescribed by the medium was sold for R. \$3.00 (about US \$1.50). Each patient was usually given a prescription for several bottles. Patients who could not afford the compound received it free of charge. Some souvenirs were available for purchase: rosaries, t-shirts and videos about the healer.

We talked to patients suffering from a wide range of diseases, such as chronic degenerative neurological disorders, cancer, breast nodules, heartburn, chronic pain, visual disorders, goiter and vertigo. John of God and members of his staff offered no guarantee that the patients would be cured, claiming that the results depended on “God's will.” Also, no recommendation was made to curtail or abandon patients’ existing medical treatments.

In a large room, John of God saw hundreds of patients during each day of the study. In this room, patients stood in a long line to see the medium, who would typically sit in an armchair, writing prescriptions after seeing the patient for a few seconds. Patients were not treated privately, but in a public fashion and prescriptions did not require any input from patients. Prescriptions were written in a style illegible to outsiders, but one which was decoded by the staff members who were selling the liquid compound.

In some cases, mediumistic surgery was recommended by John of God’s self-declared “patron saint,” St. Ignácio de Loyola, or one of the “spirit guides” from the al-

leged “spirit world.” During this consultation process John of God claimed that he was not aware, but was allowing the manifestation of one of several spirits from his “spiritual team,” who purportedly took over his body. This procedure occurred despite John of God showing no visible signs of altered consciousness.

Patients for whom surgery was recommended could choose between “visible surgery” (performed on the physical body and the focus of this study) and “invisible surgery” (performed on the “spiritual body” while they were reclining in a bed in a specific room). John of God said that “visible surgeries” were not necessary and that all treatments could be “invisible.” However, patients who questioned the efficacy of “invisible surgeries” or who desired physical evidence of the treatment usually requested “visible surgeries.”

Patients who were told that surgery was needed and who had chosen “visible surgery” were scheduled for the next surgical session. Such surgical sessions took place twice a day (late morning and late afternoon) and each of them included patients from a wide variety of health conditions. The surgeries were always performed by John of God and occurred in a large, non-sterilized, and open room with dozens of spectators – most of whom were other patients and their relatives or friends. During each of these “surgical sessions” approximately five patients usually remained standing side by side in front of one of the room’s wall. Rarely, patients were submitted to the surgeries while they were seated in a chair. “Visible surgeries” were performed in a few minutes, in a very grandiose and theatrical way, evoking strong emotional involvement and even perplexity among the audience. Incisions were performed with either sterilized scalpels or kitchen knives and surgeries were performed in rapid succession. The cleanliness of the instruments contrasted to reports of other mediumistic surgeries performed with dirty or even “rusty” implements. As soon as a surgery was finished, John of God moved to the next patient who was standing beside the previous one. John of God did not wear

gloves, wash his hands, or clean patients' surgical sites prior to or between surgeries. After surgery, an assistant accompanied the patient to a recovering room where he/she remained in a bed for several hours.

During the three days of this study, a total of 30 mediumistic surgeries were performed within 6 healing sessions (2 sessions per day). John of God removed tissue from 10 patients and we were able to collect the tissue from all of them. However, due to logistical obstacles (four patients left the recovery room before we arrived); we were only able to perform a clinical examination on six of these patients. Of these six patients:

- All declared that they were Roman Catholic and believed in the possibility of being assisted by John of God.
- Three had heard about the medium through neighbors, one through his parents, one through friends and another through articles in the Brazilian press
- Four patients had come to Casa Dom Inácio for the first time, one for the second, and another for the fourth time

We observed during our examination:

- No use of antiseptic procedures. During the three days of observation, we observed no sign of infection in the surgical wounds.
- No use of anesthetic procedures. All six patients that we interviewed reported being aware during the surgeries and only one mentioned experiencing pain (during a breast incision).

We noted that John of God sutured some of the surgical wounds. During one surgery, John of God invited the first author (AMA) to suture a 5cm skin incision in the right lower quadrant of the abdomen of a 40-year-old woman (case 4), which he did. This patient reported no pain. Other common procedures include corneal scrapings and

a procedure in which the practitioner twists a gauze-tipped steel forceps in the patient's nostril. No hemostatic procedures were performed during the surgeries.

Descriptions of patients' stated problems, procedures performed, and results of histocytopathological analysis are summarized in Table 1.

We obtained six months of follow-up information from four out of the six patients. Two subjects reported significant improvement (i.e., improved visual acuity, diminished chronic pain) and two reported no improvement or change in their medical conditions (i.e., retinal hemorrhage and chronic sinusitis). The two patients who claimed to have benefited from the psychic surgeries are described below.

Case 3: A 58-year-old man who had suffered from alcoholic hepatopathy, hypermetropia and disabling back pain during the last five years. In his contact with us, six months later, this patient claimed that his pain had disappeared and that he had resumed his athletic activities. He also claimed that his hypermetropia had decreased one month after surgery, still withdrawn from alcohol intake and using the prescribed herbal treatment, his Gamma-Glutamyl Transpeptidase serum level had dropped from 221 to 113 U/l and his prothrombin activity had increased from 44% to 68%.

Case 4: A 40-year-old woman suffering from a macular cyst and disabling idiopathic abdominal pain, which had been previously subjected to in-depth investigation and even submitted to an exploratory laparotomy (a surgical examination of a section of the abdominal wall). This patient reported a marked improvement in her visual acuity and abdominal pain. The pelvic incision left a scar but was not infected.

Unfortunately, it was not possible to obtain a medical report regarding any of these follow-ups because the patients lived in distant cities. Furthermore, Brazilian physicians have been reluctant to write statements that provide an implicit approval of spiritual healing practices (de Carvalho, 1996).

Discussion

Mediumistic surgery is a phenomenon that differs from “orthodox healing” in that it is practiced by someone without a medical degree, no formal training in surgery and in the absence of mainstream medical, ethical and legal controls. However, as has been noted by Greenfield (1987), who observed another Brazilian mediumistic surgeon, John of God does not conceive of himself as opposition to mainstream medical practice, but as a complement to orthodox medicine.

The process of choosing to undergo mediumistic surgery, especially “visible surgery,” has several potential therapeutic implications. When patients are involved in the choice of a surgery, there is an incentive for them to report benefits to justify their decision (Johnson 1994). The symbolic and metaphorical meaning of a healer's performance may be decisive in its effectiveness, evoking an unconscious mobilization of the body's self-healing faculties (Moerman 1979; Liebman 1996). The strong emotional involvement of patients in the healing process can have therapeutic value (Akstein 1984; Krippner and Villoldo 1987; McClenon 1993; Oppitz 1993). Some authors argue that surgeons with charismatic and enthusiastic approaches may be more vulnerable to a placebo effect than other health professionals. A surgeon's behavior, and the whole overall atmosphere in which a procedure is selected and executed, can influence the outcome beyond the effect of the actual surgical intervention (Johnson 1994). Many authors have emphasized the importance of the performative aspects of healing (Krippner and Villoldo 1987; Lieban 1996).

Another factor that likely influences reported benefits of surgery is the financial investment in the treatment. According to Johnson (1994), if someone is paying a large amount of money for an operation, there is a stronger incentive to report benefits. At Casa Dom Inácio the treatments are free of charge (except for the few dollars expended paying for the herbal and root compounds), hence there is no such incentive to

claim beneficial outcomes. However, financial investments can be significant when patients come from other parts of Brazil or the world. In the literature on mediumistic surgeries, there are documented cases in which payment is received for treatment (American Cancer Society 1990; Dein 1992; McClenon 1993) and others in which it is offered free of charge (Dein 1982; Cavalcante 1987). In Brazil, mediumistic surgery is largely free of charge (Greenfield, 1987). However, even where financial expenditures are small, emotional investments in mediumistic surgery are often substantial, since the procedure frequently represents a last resort.

The practice of not asking patients about symptoms before making prescriptions is used by other healers as well (Cavalcante 1987; McClenon 1993; Greenfield, 1987). Lieban (1996) reported that a Filipino mediumistic surgeon spent little time (less than a minute) with each patient. Omura (1997) studied another Brazilian mediumistic surgeon who attended hundreds of patients in one day, giving them less than one minute each. Unfortunately, the present study did not investigate the accuracy of these “mediumistic diagnostic procedures,” but this could be a worthwhile and rewarding avenue for further research.

The absence of antiseptic procedures and use of unsterilized tools during the surgeries could have caused infections to develop in the first 5 to 10 days after treatment (Barie and Eachempati 2005). Unlike another Brazilian mediumistic surgeon described by Greenfield (1987) and orthodox medical surgeons, John of God did not prescribe antibiotics to prevent infections. We did not identify any case of infection; however our sample was small and we followed up with patients for only three days. Infections could have occurred later or in a larger sample group.

Another curiosity warranting further investigation is the lack of pain reported by most patients at Casa Don Inácio, even without the use of anesthesia. Chaves and Barber's 1974 model of acupuncture analgesia might yield a relevant explanation, as it

stresses such factors as distraction and suggestion. We observed incisions in the breast and hypogastrium and extraction of a 210 gram dorsal lipoma and of a molar tooth. Only the breast incision caused the patient pain. The common practice of painlessly scraping the cornea with a knife or scalpel is a noteworthy phenomenon because the corneal epithelium is extremely sensitive to pain on account of its high density of free nerve endings (Rozsa and Beuerman 1982; Kanski 1994). In spite of that fact, no patient submitted to corneal scraping reported pain. The cornea is so sensitive to pain that one writer even doubted that any real contact with the cornea takes place during these alleged scrapings (Randi 2005). However, the authors' observations along with videotape of these procedures added to the results of cytological exams, which seemed to conclude that the scrapings were indeed real. The efficacy of the scrapings, of course, remains unresolved.

Stressful situations can promote the release of such endogenous analgesic substances as endorphins and corticotrophin-releasing factors (Lariviere and Melzack 2000; Ribeiro et al. 2005). Nickell (2007) proposed that emotional states created by healing services, like those offered by John of God, may release endorphins. However, it is not clear whether this discharge occurs during these surgeries or if it can explain the virtually unanimous absence of pain in John of God's patients. Some authors claim that the healer could induce hypnotic suggestion in the patients before initiating the surgery (Greenfield 1987), although there is no available evidence of that effect and the patients reported being aware during the treatment. This explanation does not seem to be the major dynamic at work (Barber 1999). Given these anomalous findings and their potential clinical usefulness, it seems worthwhile to continue with investigations on this subject.

Regarding the histocytopathological analysis, there are few studies available in the scientific literature with which to compare our findings. Reports vary from animal blood (American Cancer Society 1990) to human blood of the same type as the patient's

(Dein 1992), or of a different type (Lincoln and Wood 1979; Singer 1990). There are cases where examination revealed animal tissues (American Cancer Society 1990), human tissues (Singer, 1990), and in some instances, unidentifiable tissues (Dein 1992). Singer (1990) found that the purportedly extracted tissues had no relationship to the parts of patients' bodies from which they were allegedly removed and most of them were degenerate and necrotic tissues.

In this study the observed surgeries and scrapings were actual procedures and the extracted tissues were compatible with the body region from which they were removed. No evidence of fraud was detected, but matching blood type and tissue histocompatibility would be a valuable procedure for future studies.

Further complicating the results, these extracted tissues did not show signs of malignization or specificity to a given pathology. All observed incisions were superficial; none of them reached any cavity or any internal organ. The predominance of superficial surgeries and procedures in the eyeball was previously reported among mediumistic surgeons in Brazil (Greenfield 1987; Nickell 2007) and the Philippines (Lieban 1996). Despite unverified claims of cancer removal (see Savaris 1995), the tissues extracted in the surgeries observed during this study could not directly explain a hypothetical cure (except in the case of lipoma removal). This aligns with the fact that even patients who reported improvements did not display a one-to-one match between their ailment and the tissue that was extracted.

Like other Brazilian mediumistic surgeons, John of God contends that the “visible surgeries” are completely dispensable because spirits heal patients directly through “invisible surgeries.” This contention is similar to the most frequently observed forms of spiritual healing around the world. “Invisible surgeries” could be included in the domain of what CAM has called “energy medicine,” defined in a National Institutes of Health sponsored paper as a practice that “involves the use of energy fields, such as

magnetic fields or “biofields” (energy fields that some believe surround and penetrate the human body)” (NCCAM 2004, 1).

John of God claims that many patients need to see the procedure being performed on their own physical bodies to be convinced of the treatment’s reality. In performing bodily manipulations, this procedure could also be classified as “manipulative and body-based practices” that are “based on manipulation or movement of one or more body parts.” NCCAM recognizes that these areas sometimes overlap (NCCAM 2004, 1).

Perhaps these “visible surgeries” may help to assist patients (and occasionally heal them) in a manner not yet understood (Hodges and Scofield 1995). If these treatments have any effect, they appear to work through some natural pathways, even if the particular mechanisms are still unknown.

Undoubtedly, these surgeries also work as a placebo. The magnitude of the placebo effect in outcome of surgeries is similar to other placebo responses (around 35%). Usually the placebo effect in drug trials fades after about twelve weeks, however, this response seems to last longer after more invasive procedures. Because of ethical concerns, it is very hard to evaluate the placebo effect of surgeries (Johnson 1994).

With this in mind, we should not dismiss mediumistic surgery altogether as a placebo effect because in doing so we would be moving from one realm of perplexity to another. Even the concept of placebo is a source of strong controversies. Gøtzsche (1994) stated in *The Lancet*:

The placebo concept as presently used cannot be defined in a logically consistent way and leads to contradictions. (...) Because of the logical problems, and since placebos may be powerful interventions, the focus of interest should switch from whether or not an intervention is a placebo, towards the magnitude of the effect and the choice of effect variable. This shift would help to bridge the gap between scientific and unscientific medicine. (926)

According to Gøtzsche (1994), we do not fully understand the acting mechanism in placebos. In the end, focusing on the effects of a treatment is more valuable to patients than determining whether the placebo effect is at work. The larger the effect of a given intervention when compared with the absence of any treatment, the more useful the procedure is. For a long time medicine has done harm to patients by basing its interventions more in conjectures and hypothesis than in empirical tests (ex.: bloodletting; applying lidocaine to myocardial infarction). This distinction between placebo effects and specific effects can be blurred still more due to the older focus of health care on the repair of organic damage to bodily tissues. Currently, health care is expanding to include quality of life and various subjective aspects of health (WHO, 1948).

The efficacy of mediumistic surgeries is an important topic that has not been adequately empirically addressed in the scientific literature. Because of this therapy's rising popularity and the relatively unknown efficacy of its methods, a more involved examination would be timely.

As shown in a study suggesting that physicians are more likely to consider CAM therapies involving physical or invasive procedures harmful (Newell and Sanson-Fisher 2000), a thorough investigation is overdue. While our study was limited, no side effects to the procedure were detected. However, the small sample and the restricted follow-up could have impaired our ability to detect adverse effects.

Conclusions

The authors have concluded that the mediumistic surgeries studied were actual physical interventions and the tissues extracted were indeed from the patients' bodies. Despite the absence of detectable antiseptic or anesthetic procedures, no infections were observed and only one patient reported pain during the surgery. As our follow-up was

not long enough to cover the entire window for the infection of surgical sites, they may have developed after this investigation ended. Although no blatant chicanery was observed, this kind of CAM deserves further investigation, especially regarding pain, infection, general efficacy and possible side effects.

Given the lack of solid evidence for both the therapeutic and adverse effects of most CAM procedures, health professionals should keep a careful and respectful approach to a patient's use of CAM. According to Kronenberg et al. (2005):

Obviously, patients should be discouraged from using treatments that have been shown to be harmful. However, in the absence of data, a more useful approach is to ask about CAM use in a nonjudgmental way at each visit. Physicians should systematically record this information so that they can attempt to document observed effects, or lack thereof. (424)

Because various types of spiritual healing are widely used around the world and because some authors report beneficial effects (Hodges and Scofield 1995; Benor 2000), these practices should be better investigated. Further scientific results on these issues would make it possible to incorporate potentially helpful procedures into mainstream health care, while also helping to avoid the harmful or ineffective ones. A serious discussion about spiritual healing and other forms of CAM does not imply accepting the beliefs and assumptions involved, but simply a consideration of the public health impacts of practices used by hundreds of millions around the world. Neither naive acceptance nor blind skepticism will help patients or the development of health care (Chibeni & Moreira-Almeida, 2007; Ernst, 1995).

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