

Marks of autopsy and identification of victims of human rights violations exhumed from cemeteries: the case of the Spanish Civil War (1936–1939)

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Received: 20 May 2013 / Accepted: 8 July 2013
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Abstract The presence of autopsy marks in human skeletal remains indicates a medicolegal procedure related to ascertaining the cause and manner of death. We present here four cases where signs of autopsy were observed in the remains recovered from mass graves and cemeteries of prisoners from the Spanish Civil War (1936–1939), victims of extrajudicial executions, and of death in prison, respectively. With respect to the former, historical evidence indicate that during the first weeks after the coup, official removal of cadavers and autopsy procedures were carried out to the first victims of extrajudicial killings, whose corpses were found abandoned in the road. Once the civil war was established and systematic extrajudicial killings were systematic, official military orders were issued to stop standard forensic proceedings. Therefore, autopsy marks observed in the remains exhumed from mass graves located in cemeteries may be indicative of an earlier chronology of the killings, and this information proved to be relevant for the identification process in one of the cases presented. In a cemetery of political prisoners, autopsy signs were also observed in two skeletal remains and in the official records of two prisoners, a corroboration of information also relevant for the identification process. These findings indicate that autopsy marks can be found in the remains of victims of human rights violations exhumed from cemeteries. Skeletal and archival information could be useful for the identification process in other cases of large-scale violence, where the first victims of

extrajudicial executions were buried unidentified in cemeteries after autopsy procedures.

Keywords Autopsy marks · Identification · Cemetery · Extrajudicial execution · Spanish Civil War

Introduction

It has been estimated that along the Spanish Civil War (1936–1939) and the first years of the dictatorship that followed, at least 175,000 persons were victims of extrajudicial executions and death sentences from court-martials and popular tribunals [1, 2]. Most of these victims were buried in mass graves in open countryside and in cemeteries, and since 2000, at the request of families of victims of the fascist violence, at least 330 mass graves and 6,174 remains have been exhumed, according to a database managed by Aranzadi Sciences Society (Donostia, Basque Country), whose objective is compiling basic data from the exhumations carried out in Spain. For mass graves in open countryside, we have previously described the identification process, from grave location and exhumation to the study of the remains and targeted DNA typing [3–5]. In the present work, we describe the identification process of remains exhumed from cemeteries, focusing on the forensic significance of marks of autopsy in a context of systematic human rights violations. Three cases of mass graves and one case of a cemetery of political prisoners are presented.

Material and methods

The four exhumation projects included are Altable, Magallon, and La Carcavilla, where mass graves were exhumed from the local cemetery, and Valdenoceda, where a prisoner's cemetery was exhumed. We describe the basic data regarding each case.

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Altable

Eight remains were recovered from the mass grave located in the cemetery of Altable, a town located north of the province of Burgos. According to testimonies of relatives and neighbors, in August 1936, eight men were kidnapped, killed, and their cadavers abandoned at the entrance of the town. The local court was informed, and the cadavers were subsequently buried in an area of the small local cemetery. In April 2006, this area was signaled by relatives and neighbors of Altable to the exhumation team, who located a mass grave at the indicated place and recovered eight skeletons.

Magallon

According to testimonies and historical research [6, 7], between July 1936 and January 1937, more than 100 persons from surrounding towns were kidnapped, transported to the town of Magallon (province of Zaragoza), killed nearby the cemetery, and buried in mass graves inside the cemetery. At the request of the families, the exhumation team located 30 single and mass graves in 7 parallel ditches inside the cemetery, from where a total of 81 remains were exhumed from March to April 2009.

La Carcavilla

Between July 1936 and February 1938, over 500 persons from the city of Palencia and nearby towns were victims of extrajudicial killings and death penalties from fraudulent court-martials, and subsequently buried in the old cemetery of the city [8]. The cemetery was abandoned in 1955, and the public park of La Carcavilla was built in its location, currently inside the city downtown. At the request of families of the victims, in two field seasons between 2009 and 2011, our team exhumed 105 skeletons from single and mass graves.

Valdenoceda

A former silk factory building, located in the town of Valdenoceda, north of the province of Burgos, was transformed into a prison, which was active between 1938 and 1943. According to testimonies and archival research carried out by our team, along this 5-year period, 152 prisoners died of starvation and illness. In 2007, location and exhumation of the unmarked cemetery was carried out at the request of the association of families of the prisoners. A total of 116 remains were exhumed from single graves.

In addition to the exhumation and analysis of the remains at the laboratory, in each case, an investigation was initiated to search for documents regarding the victims of the killings and the dead prisoners in penitentiary, civil, army, and church archives. Copies of each relevant document found

at the archives were obtained. Methods for the osteological analysis have been described elsewhere [3–5]. A preliminary analysis of the pattern of perimortem trauma has also been described elsewhere [9], based on macroscopic inspection of the skeletons. Clear autopsy marks, such as aperture of the cranium or complete cuts of the clavicles, were already documented in the field. At the laboratory, a detailed inspection was carried out at those locations that could be affected by the aperture of the cranial and thoracic cavities: cranium, clavicles, sternum, and ribs. A detailed photographic record was kept of every bone displaying marks of autopsy.

Case reports

Altable

Estimated sex and age of the remains were compatible with the antemortem information regarding the eight males supposed to be buried in the grave. Autopsy marks were found for six out of eight of the remains, but only in the cranium (Table 1). This finding was in agreement with the information recovered from the civil archive of Altable, where death certificates dated on August 16, 1936 were found for eight men whose cause of death was gunshot injuries. In these certificates, the intervention of a forensic doctor is indicated, and a summary of the main findings of the autopsy as related to the cause of death were included. In two certificates, the men were identified and corresponded to two men of the group of eight victims supposed to be buried in the grave. Additionally, pellet injuries were observed in two left ribs of one skeleton (Fig. 1a), a finding compatible with the observations stated in one of the eight death certificates, where it can be read “perdigonada del pecho que acribilla pulmón derecho” (gunshot from shotgun in the chest with right lung riddled). Evidence of gunshot wounds were found in all the crania in the form of gunshot entrances or exits or multiple perimortem fractures. Information from testimonies, archeology, archives, and osteology was consistent, but DNA studies were not carried out due to the lack of financial support. In agreement with the requesting relatives that organized the exhumation, identification was proposed at the group level, and the remains were returned in a communal ceremony to the families.

Magallon

Only 8 out of 81 skeletons recovered presented signs of autopsy. Marks were found in the cranium, clavicle, sternum, and ribs (Table 1). Entrances, exits, or multiple fractures compatible with gunshot wounds were observed in the eight remains (Table 1 and Fig. 1b). These eight skeletons were exhumed from three adjacent archeological groups containing three skeletons each and located in one of the lateral ditches.

Table 1 Summary of the autopsy and perimortem findings in the 19 skeletons from three of the cases presented (Af5-1 and B4, Valdenoceda; W, Magallón; ALT, Altable). C: complete cut. CM: cut marks

Case	Marks of autopsy				Perimortem trauma
	Cranium	Clavicles	Ribs	Sternum	
Af5-1	NO	C	C	–	–
B4	C	CM	–	CM	Multiple fractures at pelvis and sacrum
W-I-1	C	C, CM	C	–	Multiple cranial fractures; gunshot wound, right patella
W-I-2	C	C, CM	C	–	Multiple mandible fractures
W-I-3	C	C, CM	C	–	Multiple mandible fractures
W-II-4	C	C, CM	C	–	Gunshot entrance cranium
W-II-5	C	C, CM	C	C	Fractures at ribs, vertebrae, right pelvis; comminute fracture left, femur
W-II-6	C	–	C	–	Multiple cranial fractures; fractures, left patella
W-I-1	–	C, CM	C	–	Multiple cranial fractures
W-I-2	C	CM	–	C	Multiple cranial fractures
W-I-3	–	CM	–	–	Gunshot exit cranium
ALT-1	NO	–	–	–	Gunshot entrance cranium
ALT-2	C	–	–	–	Gunshot exit cranium; buckshot injuries, left ribs
ALT-3	C	–	–	–	Gunshot entrances cranium; fractures at sternum and right femur
ALT-4	C	–	–	–	Gunshot entrance cranium; fractures, right pelvis
ALT-5	C	–	–	–	Gunshot entrance cranium; comminute fracture, right humerus
ALT-6	C	–	–	–	Gunshot entrance cranium
ALT-7	C	–	–	–	Gunshot entrance cranium
ALT-8	Incomplete	–	–	–	Multiple cranial fractures

Based on historical information and testimonies, it was hypothesized that the presence of marks of autopsy could indicate that these remains belonged to the first group of victims killed in July 27, 1936. These three graves could signal that the ditch where they were found was the first to be used for burial and could also indicate the chronological order of burial inside that ditch. Information from the osteological study of the six skeletons found in the first two graves was compatible with the antemortem data for the six men that according to testimonies and historical data composed the first group of victims buried at the cemetery. Targeted DNA studies supported the identification of four out of the six remains, the only ones with requesting relatives from this first group of victims. To date, individual identifications of 28 remains have been proposed, backed by a DNA study, and the 81 remains were returned to the communal pantheon built by the association of families in the cemetery of Magallon.

La Carcavilla

From research of the testimonies of relatives and army, civil, and cemetery archives, extrajudicial executions took place in the city of Palencia and surrounding towns from July 18 to August 16, 1936. The cadavers of these victims were abandoned in the roads and subsequently transported by the Red Cross to the morgue in the city of Palencia for identification and burial in the old cemetery. Abundant official documents

were found in the archives related to medicolegal procedures carried out to these victims of extrajudicial executions, including autopsies (see Discussion section below). Our field team expected to find the remains of these persons in the first, second, and third rows of the excavated sector of the cemetery. Instead, conventional single burials in wooden coffins were discovered. In several of these graves, small skeletal parts with signs of perimortem trauma and marks of autopsy were recovered in the limits of the graves, interpreted to belong to the previous inhumation of the victims (Fig. 1c). Specifically, bone fragments with signs of autopsy were recovered in 19 of these graves. Further archival research indicated that these graves were reused after 5 years due to the absence of payment.

From August 17, 1936 to February 12, 1938, victims were first arrested, subjected to court-martials that issued death penalties, and then buried in the old cemetery. No autopsy marks were observed in the remains recovered in the graves corresponding to these victims, located in the fourth to ninth rows of the excavated sector of the cemetery. No documents were found in the archives related to autopsy procedures of these victims of court-martials.

Valdenoceda

Two skeletons, B4 and Af5-1, presented signs of autopsy (Table 1). Additionally, skeleton B4 presented perimortem fractures at the right pelvic bone and sacrum. Autopsy

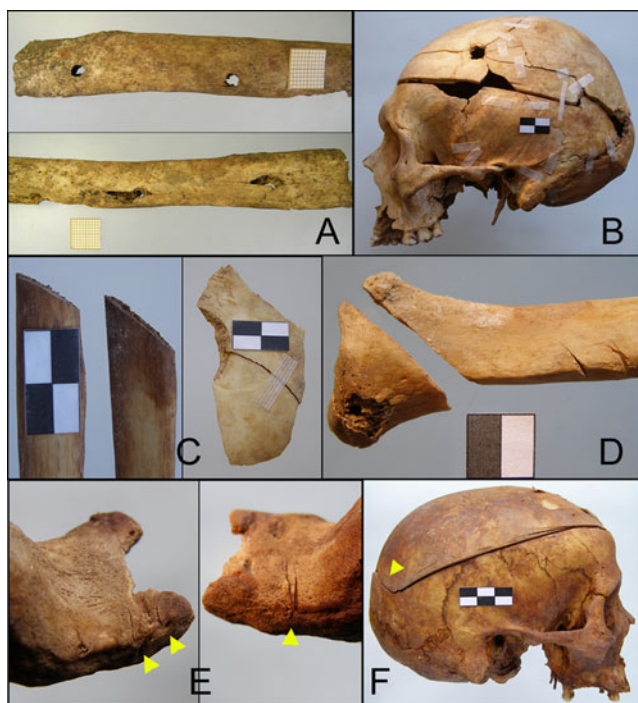


Fig. 1 **a** Anterior and posterior views of the sternal end of an intermediate left rib from a skeleton from Altable. The impact of two pellets can be observed, a lesion compatible with information recorded in the death certificate. **b** Cranium from a skeleton exhumed from Magallón, displaying a craniotomy and a gunshot wound. **c** Skeletal fragments recovered from reused mass graves from the cemetery of La Carcavilla. Complete cuts in the ribs can be observed on the left, a sign of an autopsy procedure. On the right, a partial circular/oval defect with external beveling can be observed, indicative of a gunshot wound. **d** The sternal end of a left clavicle from a skeleton from Magallon. Cut marks and a complete cut can be observed. **e** Cut marks (*yellow triangles*) left by the disarticulation of the sternoclavicular joint in a manubrium from a skeleton from the prisoner's cemetery of Valdenoceda (left joint to the left, right joint to the right). **f** Craniotomy in a cranium from an autopsied skeleton exhumed from the prisoner's cemetery of Valdenoceda. The cut did not reach the posterior part of the parietal bone (*yellow triangle*): The cranial vault was separated by traction causing a fracture at the occipital bone

procedures were recorded for two prisoners in official documents from civil and church archives (Fig. 2a). Estimated sex, age, and stature of skeletons Af5n1 and B4, as well as the presence of perimortem trauma in B4, were compatible with antemortem data for J.V. and B.V., respectively, two of the 152 prisoners who died in jail. The coincidence between the archeological data (burial position) and archival data (chronological list of dead prisoners) further supported both identifications. In the case of J.V., there was a requesting family, and the DNA study was a coincident, while no family has requested the identification of B.V. To date, the corroboration of information from testimonies, archives, archeology, osteology, and DNA has allowed the identification of 23 remains, which have been already returned to their families.

Discussion

As it has been shown for three of the cases presented (Altable, La Carcavilla, and Valdenoceda), investigation of civil, judicial, and military archives has resulted in the findings of documents related to autopsy procedures to victims of extrajudicial killings during the first weeks of the Spanish Civil War, as well as to political prisoners who died in the postwar period. A clear example where autopsies are well documented, is the cemetery of La Carcavilla. We can follow the case of S.G., a 27 year old former major of a small town near the city of Palencia, for whom five archival documents were found. In the first one, dated in July 28, 1936 and signed by judicial authorities, it is stated that the cadavers of three men were transported the night before to the judicial mortuary by the

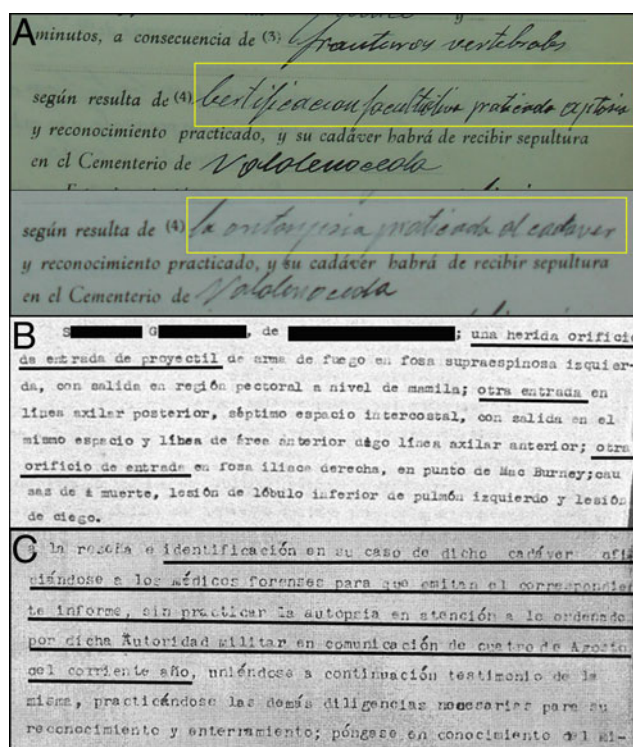


Fig. 2 **a** Inscriptions of death for two prisoners from the jail of Valdenoceda (B.V. and J.V.), where it can be read that autopsies were performed on both cadavers (*yellow boxes*). Literally, “Certificación facultativa practicada autopsia” (medical dictamen after autopsy), and “la autopsia practicada al cadáver” (autopsy performed to the cadaver). **b** Fragment of the autopsy procedure performed to the cadaver of S.G., where three gunshot wounds are described (*underlined*). Literally, “una herida orificio de entrada de proyectil” (a gunshot wound entrance of a projectile), “otra entrada” (another entrance), “otro orificio de entrada” (another entrance defect). **c** Document issued by the local judicial authorities, dated September 4, 1936, where it is stated that under order of the new military authorities, forensic doctors should limit themselves to identify those cadavers transported to the morgue with gunshot wounds without practicing the autopsy procedure (*underlined*; literally, “identificación en su caso de dicho cadáver oficiándose a los médicos forenses para que emitan el correspondiente informe, sin practicar la autopsia en atención a lo ordenado por dicha Autoridad militar en comunicación de cuatro de Agosto del corriente año, uniéndose a continuación testimonio de la misma, practicándose las demás diligencias necesarias para su reconocimiento y enterramiento; póngase en conocimiento del al-

Red Cross, who found the cadavers abandoned in a road. One of the cadavers is identified as S.G. In the second one, the legal secretary states that the autopsy procedure has been carried out to the cadaver of S.G. by two forensic doctors. The third one is the autopsy report, where three gunshot wounds are described (at the left scapular suprascapular fossa, at the posterior axillary line, and at the right iliac fossa) (Fig. 2b). The fourth one is the death certificate for the civil record, where the inscribed cause of death is “lung and caecum injuries, with hemorrhage of hemithorax and abdomen.” Finally, the fifth document is the burial inscription in the cemetery of La Carcavilla. This case is representative of the standard judicial steps, and its archival trail, regarding some of the victims of extrajudicial killings. In other documents found for the case of La Carcavilla, signed September 24, 1936, two forensic doctors state that between July 20 and August 15, 1936, in the city of Palencia, they carried out autopsies to 94 cadavers, of whom 37 were inscribed as unknown. If we consider the case of Magallon and especially Altable, a small town currently with 61 inhabitants, we can observe that standard judiciary procedures (including autopsies) regarding the finding of unknown cadavers were followed along the first weeks after the military coup.

Nevertheless, due to the stabilization of the civil war and due to the massive nature of the killings, judicial and forensic investigations were obviously stopped or not initiated at all. As an instance of the latter, Espinosa [10] indicates that 126 cadavers entered in the cemetery of the city of Seville on July 23, 1936, 5 days after the coup, corpses that went directly to a mass grave without any standard procedure such as basic description for identification or external examination by a forensic doctor. With regard to the places where autopsies were being performed, as recorded in at least two official documents [11] and a document in possession of the authors, military authorities supporting the coup issued orders to the judicial authorities in August 13 and 4, respectively, indicating that no autopsy procedures should be carried out to cadavers found abandoned in order to “simplify paperwork” due to the “current circumstances” (i.e., the army coup) (Fig. 2c). Ruiz de Vilaplana, a former legal secretary from the city of Burgos, denounced a similar situation [12], where the new military Governor first ordered that after finding abandoned cadavers, the local courts should carry out the official removal of the corpse followed by the forensic report, but formal investigations should not be initiated by law enforcement forces regarding the authors of the killings. Subsequently, no forensic proceedings were carried out at all.

From all this historical information, we can state that in some places, autopsies were carried out to victims of extrajudicial killings from the beginning of the coup to a non-determined date towards the end of August. Thus, in the specific case of the Spanish Civil War, in searching for victims of extrajudicial killings buried inside cemeteries, the presence

of autopsy marks cannot exclude the remains as belonging to those victims. This is especially important for the disturbed and commingled remains found in regular graves, as have been described for the case of La Carcavilla, where further analysis could be also applied to study the presence of gunshot wounds associated to the killings [13, 14]. Furthermore, autopsy marks offer information regarding the early chronology of the killings, a relevant clue for organizing the identification process as shown for the case of Magallon. More specifically, the potential presence of official documents stating autopsy procedures, as well as the potential presence of the autopsy reports, could be useful for the identification of the remains, as shown for Altable and Valdenoceda.

With regard to the marks of autopsy, from the summary of findings (Table 1), we can observe that it can affect a different combination of bones, from only the cranium (e.g., ALT-2) or only the clavicle and ribs (e.g., Af5n1) to the cranium, clavicles, and ribs (e.g., W-I-1). The absence of marks of aperture of the cranial cavity (e.g., Af5n1, W'-I-1), or of the thoracic cavity (e.g. skeletons from Altable), could be due to the criteria of the forensic doctor in charge of the autopsy. The absence of any mark of autopsy at all in one skeleton, out of a group where all the others present marks of autopsy (e.g., ALT-1), could also be interpreted as a perception of the futility of the procedure in a context of systematic killings. Alternatively, the presence of multiple fractures due to a gunshot wound to the cranium could allow opening of the cranial cavity without the need for a craniotomy (e.g., ALT-1). We can also observe that bones from the thorax may present complete cuts and/or cut marks indicative of the opening of the thoracic cavity. For example, the clavicle can present both cut marks caused by incisions to reflect the skin and subcutaneous tissue exposing the bone before proceeding to cut and a complete cut (Fig. 1d), while the sternum can present only cut marks due to the disarticulation of the sternoclavicular joint (Fig. 1e). A detailed inspection of the sternum, clavicles and ribs would be needed in order to detect this cut marks, when no obvious autopsy signs were present in the form of complete cuts, or in cases of commingled or incomplete remains. As indicated previously by Eliopoulos et al. [15], there are also different types of autopsy cuts of the cranial vault in terms of angle of the cut and number of cuts, and some may be mistaken for perimortem trauma, especially in cases of fragmentary remains. We would also add that in some cases, the cut was incomplete in the posterior part of the cranium, which was fractured, since the separation of the cranial vault was finally carried out by manual traction during autopsy (Fig. 1f). In fragmentary and commingled remains, these fractures could also be confused with perimortem trauma.

Previous authors have developed guidelines for recognition of cemetery remains, and marks of autopsy have been considered together with marks of embalming, contextual information, and associated artifacts [15–17]. These guidelines are

indicative of the possible cemetery origin of human remains found in locations where there is no current knowledge of the presence of a cemetery, whether modern or historical. Authors from North America agree that only embalming artifacts are highly consistent with a cemetery origin [16, 17], and also note that the presence of marks of autopsy “may indicate that the death has been investigated” [17: 236]. Eliopoulos et al. [15] state that in Greece and other countries where embalming has not been usual, a combination of attributes including autopsy marks (together with skeletal signs of coffin wear, excavation damage, and contextual information, among other factors) should be evaluated in order to recognize cemetery remains. All these authors agree that when human skeletal remains are found, and a medicolegal investigation is initiated, the recognition of the cemetery origin of the remains is helpful to place the investigation into the right direction [15], often pointing to non-forensic relevance.

In the present work, we do not deal with the cemetery origin of the remains but with the forensic relevance of marks of autopsy in skeletal remains exhumed from cemeteries in a context of large-scale violence. From the cases presented here, the findings of marks of autopsy are indicative of the fulfillment of the first steps of the judicial protocols related to the recovery of an abandoned cadaver, for whom a violent or criminal death is suspected, but those findings cannot exclude the forensic significance of the case. A similar situation happened for example in the Santiago de Chile, with the victims of the Pinochet's dictatorship. During the first weeks after the coup, cadavers were thrown to the Mapocho River or abandoned in the streets, from where they were recovered and transferred to the medicolegal service, where all the corpses underwent an autopsy procedure with opening of the cranial and thoracic cavities. Some of these victims were identified and recovered by their families, but others were buried as unidentified in the general cemetery, and have been searched after the dictatorship by their families.¹ These observations could be of interest in other cases of systematic human rights violations, where information from legal cemeteries has been investigated in the search for the disappeared such as in Colombia [18].

Conclusions

Marks of autopsy were observed in the remains recovered from mass graves and cemeteries of prisoners from the Spanish Civil War, victims of extrajudicial executions, and

of death in prison, respectively. Complete cuts and/or cut marks were observed at the cranium, clavicles, and sternum, which mean that a detailed inspection of these bones should be carried out in order to detect those marks. The presence of an autopsy procedure can be useful for the identification process of victims of extrajudicial executions exhumed from cemeteries, since it is indicative of an early chronology of the killing. Documentary evidence regarding autopsy procedures can be found in civil, church, and army archives, and this information can be also useful for the identification process. These findings can be useful for other cases of large-scale violence, where the first victims of extrajudicial executions were buried unidentified in cemeteries after autopsy procedures.

Acknowledgments The authors would like to thank the families for the trust deposited in our team and the patience along the identification process. We also would like to thank Manuel Monge for his help in the archival research in the case of La Carcavilla. Dr. Claudia Garrido kindly agreed to share her experience in the Chilean case. This research is part of the project financed by the Ministry of Economy and Competitiveness CSO2012-32709.

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¹ This information comes from Dr. Claudia Garrido (Special Unit of Forensic Identification, Forensic Service of Chile) and from the senior author (F.E.), who has been called as an international forensic expert by the Chilean Government to collaborate in diverse cases related to the identification and determination of the cause and manner of death of victims of the Pinochet's dictatorship.

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